X

ORDER OF THE LIEUTENANT GOVERNOR OF BENGAL. FORWARDED BY

REVIEW

OF

FOREST ADMINISTRATION

IN

BRITISH INDIA

FOR THE YEAR

1886-87.

BY

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REVIEW

OF

FOREST ADMINISTRATION IN BITRISH INDIA

FOR THE YEAR 1886-87.

CHAPTER I.

AREA AND BOUNDARIES.

AREA.

General.

The following table exhibits the forest areas, the property of Government, which were under the management and control of the Forest Department on the 1st April 1887 (excluding Leased Forests, which are dealt with in para. 4) :—

Province.		Forest area, in square miles.				Proportion of Forests to whole area of Province	Remarks.
Name.	Area, in square miles.	Reserved	Protected	Unclassed State	Total		
						Per cent.	
Bengal	150,589	4,986	2,195	4,033	11,214	7	
North-Western Provinces and Oudh	106,080	3,531	73	131	3 735	4	
Punjab	106,772	1,202	377	* 3,272	4,851	4	* Besides 11,846 square miles not on the books of the Forest Department.
Central Provinces . . .	84,445	† 19,955	...	404	20,359	24	† 3,505 square miles are first class Reserves; the rest second class
Burma	87,220	‡ 4,788	...	...	4,788	6	‡ 422 square miles are Taungya areas
Assam	45 838	2,707	1,225	6,126	10,058	22	
Coorg	1,583	242	...	...	242	15	
Ajmere	2,711	139	...	...	139	5	
Baluchistan	...	...	...	12	12	...	
Andamans	...	...	...	...	...	...	
Total .	585,238	37,550	3,870	13,978	55,398	9	
Berar	17,711	1,542	...	2,599	4,141	23	
Total Bengal Presidency .	602,949	39,092	3,870	16,577	59,539	10	
Madras	* 84,575	3,379	§ 7,492	1,099	11,970	14	
Bombay	124,300	9,752	4,492	..	14,244	11	§ Reserved lands.
Grand Total .	811,824	52,223	15,854	17,676	85,753	11	

* This is exclusive of the areas of Feudatory and Tributary States, Zemindaris, and whole Inam Villages

2. The total area of these forests has thus increased during the year by 3,340 square miles, of which 1,081 square miles are in the Provinces under the Government of India and in Berar, 1,047 square miles in the Madras Presidency, and 312 square miles in Bombay.

These changes in area are, as regards forests under the more complete

control of the Forest Department, distributed amongst the several Provinces in the following manner:—

Province.	Area, in square miles.					
	Reserved Forests.		Protected Forests.		Total	
	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.
Bengal	14	...	..	24	...	10
North-Western Provinces and Oudh	9	...	...		9	...
Punjab	134	...	56	...	190	...
Central Provinces	521	...	...	...	521	...
Burma	317	...	...	...	317	...
Assam	375	...	362		737	...
Coorg	3	...	...	...	3	...
Ajmere	...	6	...	...	...	6
Total	1,367	...	394	...	1,761	...
Berar	...	4	...	...	...	4
Total Bengal Presidency	1,363	...	394	...	1,757	...
Madras	642	...	432	...	1,074	...
Bombay	247	...	65	...	312	...
Grand Total	2,252	...	891	...	3,143	...

3. In the following table the proportion is given between the area of Reserved forests, as it stood at the end of the year, and the area of the Provinces in which they are situated:—

Province.	Proportion of Reserved Forest Area to Area of Province
	Per cent.
Bengal	3
North-Western Provinces and Oudh	3
Punjab	1
Central Provinces	24
Burma	6
Assam	6
Coorg	15
Ajmere	5
Berar	8
Madras	4
Bombay	8

The proportion of Reserved forests for the whole Empire is 6·4 per cent. only.

4. In addition to the Government forests enumerated in the foregoing paragraphs, the Forest Department is in charge of a considerable area of Leased

forests, in which—up to the end of the year—the following Reserves, constituted similarly to Reserves under the Indian Forest Act, have been formed :—

Province.	From whom leased.	Area, in square miles.
North-Western Provinces and Oudh	Tehri-Garhwal Jaghirs	10
	Raja of Tehri-Garhwal	67
	Raja of Bashahr	2
Punjab	Raja of Bashahr	171
	Raja of Chamba	178
Total Bengal Presidency	... ..	428
Madras	Raja of Sandur	62
	Raja of Nilambur	136
Grand Total	..	626

No changes of importance have taken place in the areas of these Leased forests during the year.

Bengal.

5. The changes in the constitution of the areas under the administration of the Forest Department are exhibited as follows :—

Class of Forests.	Area, in Square Miles.				Proportion of Forests to whole Area of Province (150,589 square miles).
	At the Commencement of the Year	Added	Excluded	At the Close of the Year	
					Per cent.
Reserved	4,972	24	10	4,986	3
Protected	2,219		24	2,195	1
Unclassed State	4,033	...		4,033	3
Total	11,224	24	34	11,214	7

Of this small net increase to the Reserved forests, 4 square miles is only real, the remaining 10 being the consequence of a rectification of area.

The area of Reserved forests in Bengal amounts still to 3¼ per cent. only of the area of the Province.

North-Western Provinces and Oudh.

6. The changes that took place during the year under review in the areas of Government forest property are exhibited as follows :—

Class of Forests	At the Commencement of the Year	Added.	Excluded	At the Close of the Year	Proportion of Forests to whole Area of Province (106,080 square miles).
	Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms.	Per cent.
Reserved	*3,600	†10	...	‡3,610	3
Protected	73	..	...	73	...
Unclassed State	118	13	...	131	1
Total	3,791	23	...	3,814	4

* Includes 78 square miles of *Leased* forests.

† Includes 1 square mile of *Leased* forests.

‡ Includes 79 square miles of *Leased* forests

7. These areas were distributed at the close of the year among the three Circles thus :—

Circles.	Area, in Square Miles.				Proportion of Forests to whole Area of Province (106,080 square miles).
	Reserved Forests.	Protected Forests.	Unclassed State Forests.	Total.	
					Per cent.
Central	1,603	73	118	1,794	2
Oudh	1,203	...	...	1,203	1
School	*804	...	13	817	1
Total in 1886-87	3,610	73	131	3,814	4
„ „ 1885-86	3,600	73	118	3,791	4
Increase in 1886-87	10	...	13	23	...

* Includes 79 squares miles of *Leased* forests.

Punjab.

8. The following is an abstract of the progress made during the year under review in the constitution of Reserved and Protected forests :—

Class of Forests.	Area, in Square Miles.				Proportion of Forests to whole Area of Province (106,772 square miles).
	At the Commencement of the Year.	Added.	Excluded.	At the Close of the Year.	
Reserved	1,068	138	4	1,202	1·1
Protected	321	68	12	377	0·4
Unclassed State	2,709	770	207	3,272*	3·0
Total	4,098	976	223	4,851	4·5
Reserved forests formed under *Leases*	349	...	...	349	0·3
Grand Total	4,447	976	223	5,200	4·8

* In addition, there are 11,846 square miles not on the books of the Forest Department.

The increase in the Reserved forests is due principally to the inclusion of the Murree and Kahuta forests in Rawalpindi; the Kalesar forest in Amballa; and the Kotgarh and Kotkhai forests in the Simla hills.

The Protected forests were increased by additions effected mainly in the Murree and Kahuta tahsils; and the Unclassed forests by tracts in the Rawalpindi and Kangra districts. The exclusion of areas from the Unclassed forests is the consequence of their transfer to Reserved and Protected forests to the extent of 189 square miles, the remaining exclusions being the result of area corrections, grants, &c., &c.

Central Provinces.

9. The changes in the areas under the Forest Department during the year under review were as follows :—

Class of Forests.	Area, in Square Miles.				Proportion of Forests to whole Area of Province (84,445 square miles).
	At the Commencement of the Year.	Added.	Excluded.	At the Close of the Year.	
					Per cent
A Class Reserves	3,505	...	...	3,505	4
B . „ „	15,929	521	...	16,450	20
Total Reserves .	19,434	521	...	19,955	24
Unclassed State	404	...	...	404	...
Grand Total .	19,838	521	...	20,359	24

The increase in the area of the B Reserves is merely nominal, being due to rectifications of area in the Mandla and Bilaspur forests. As the survey of the forests progresses, important rectifications of the kind may be expected to recur. Although the area of the A Reserves was, it is noted with regret, not increased during the year, preparations were made which resulted in important transfers to that class of forests subsequently.

Lower Burma.

10. The history of the year's reservation is shown in the following table :—

	Forest Area.	Taungya Area	Total.
	Square miles.	Square miles	Square miles.
Reserved on 1st April 1886	4,049	422	4,471
Added during the year	317	...	317
Total on 31st March 1887 . . .	4,366	422	4,788

These areas are divided between the two Circles as follows :—

Circles.	Forest Area.	Taungya Area	Total.	Proportion of Forests to total Area of Province (87.220 square miles).
	Square miles.	Square miles.	Square miles.	Per cent.
Pegu	2,885	410	3,295	4
Tenasserim	1,481	12	1,493	2
Total .	4,366	422	4,788	6

The increase in the area of Reserved forests is due to the addition of the Yechaung Reserve in the Tenasserim Circle.

Assam.

11. The changes which took place during the year under review in the constitution of the State forest property are exhibited in the following table :—

Class of Forests	Area, in square miles.				Proportion of Forests to whole Area of Province (45,838 square miles)
	At the Commencement of the Year	Added.	Excluded.	At the Close of the Year.	
					Per cent.
Reserved	2,332	375	...	2,707	6
Protected	868	555	193	1,225	3
Unclassed State	6,392	12	278	6,126	13
Total	9,587	942	471	10,058	22

The considerable additions made to the area of Reserved forests occurred principally in Sylhet and Goalpara. Of the increase in the area of Protected forests, 308 square miles are not real, being due to a rectification of area. The exclusions are the consequence of transfers to the class of Reserves.

Madras.

12. The changes effected during the year are shown in the following table :—

Class of Forests	Area, in Square Miles.				Proportion of Forests to whole Area of Presidency (84,575 square miles)*
	At the Commencement of the Year	Added.	Excluded.	At the Close of the Year	
					Per cent.
Forests reserved under Act V of 1882 .	1,628	685	1	2,312	3
Forests reserved under previous orders of Government, or regarded as "Reserves" previous to Act V of 1882 . .	1,109	1	43	1,067	1
Leased Forests (reserved) . . .	198	...	...	198	...
Reserved Lands	7,060	1,085	653	7,492	9
Other Forests	1,126	21	48	1,099	1
Total .	11,121	1,792	745	12,168	14

* Excluding areas of Feudatory and Tributary States, Zemindaris, and whole Inam villages

Of the considerable additions made to the reserved area, 312 square miles were added in the Southern Circle (principally in Salem and North Coimbatore), and 372 square miles in the Northern Circle (principally in Cuddapah and the Nilgiris). The area of Reserved Lands, the source of future Reserved forests, was largely extended.

13. The following table shows the distribution of the forest area between the two Circles at the close of the year :—

Circle.	Area, in Square Miles.					
	Forests reserved under Act V of 1882.	Forests reserved under previous orders of Government, or regarded as "Reserves" prior to Act V of 1882.	Leased forests (Reserved).	Reserved Lands.	Other Forests.	Total
Northern . . .	474	787	198	3,837	...	5,296
Southern	1,838	280	...	3,655	1,099	6,872
Total	2,312	1,067	198	7,492	1,099	12,168

The areas notified under Section 4 of the Madras Act aggregated, at the close of the year, 7,984 square miles. In connection with this area, the settlement was said to be virtually finished over 1,000 square miles.

Bombay.

14. The changes which took place during the year under review in the constitution of State forest property under the control of the Forest Department are reported as :—

Class of Forests.	Area, in Square Miles.				Proportion of Forests to whole Area of Presidency (124,300 square miles).
	At the Commencement of the year.	Added.	Excluded.	At the Close of the Year.	
Reserved	9,505	292	45	9,752	8
Protected	4,427	124	59	4,492	3
Total .	13,932	416	104	14,244	11

The increase in both Reserved and Protected forests was almost entirely in the Northern Circle.

15. At the close of the year the Reserved and Protected forests were distributed over the three Circles of the Presidency in the following proportion :—

Circle.	Area, in Square Miles.		
	Reserved Forests.	Protected Forests.	Total
Northern	7,231	1,080	8,311
Southern	1,822	3,412	5,234
Sind	699	...	699
Total .	9,752	4,492	14,244

CHAPTER II.

SURVEYS AND WORKING-PLANS.

SURVEYS.

Forest Survey Branch.

16. The principal operations were in Berar and in the Punjab (Bashahr), in continuation of those of last year. The boundary survey of the Singhbhum Forests in Bengal was also continued, and new surveys were initiated in the Kumaon and Kheri districts of the North-Western Provinces and Oudh. The area topographically surveyed was 903 square miles, of which 508 square miles were on the 4″ scale and 396 on the 2″ scale. In addition, 597 linear miles of forest boundaries were surveyed, and the triangulation extended over 580 square miles.

The cost of the principal topographical works was as follows:—

	R
Berar, 4″ Survey	67
Bashahr ,, ,,	47
Berar, 2″ ,,	46

The outturn of work during the year was thus very satisfactory, while the cost was conspicuously less than has even hitherto been the case.

Bengal.

17. The boundary survey conducted by the Forest Survey Branch in the Singhbhum Sub-Division was continued, with the result that some 432 miles of inner and outer boundaries were surveyed.

Punjab.

18. In connection with the Bashahr survey, 245 square miles were triangulated, and 174 square miles plane-tabled. The survey of Changa-Manga was completed.

Burma.

19. It was expected that the Topographical Survey Party would have surveyed 250 square miles on the 4″ scale, and 130 square miles on the 2″ scale; but owing to the disturbed state of the country and other causes, only 45 square miles of topography on the 4″ scale were executed. The advance work consisted of 295 square miles of triangulation, and 191 square miles of traversing, of which 58 square miles only partially so.

Assam.

20. Forest survey work was concentrated in the Garo Hills, and carried out by the Working-Plans Division. The forests in which surveys were carried out were the Dambu, Darugiri, Songsâk, and Rongrengiri Reserves; and in these the work was confined, for the most part, to interior topographical details. The high cost of these works is attributable to the inaccessible and unhealthy character of the country; but also, it is to be feared, to bad management on the part of the officer entrusted with the survey.

Berar.

21. The survey of the Melghat forests by the Forest Survey Branch was continued, with the result that a total area was plane-tabled of 403 square miles (162 on the 4″ scale, and 241 on the 2″ scale). The area triangulated in advance was 410 square miles, and the area traversed 458 square miles.

Madras.

22. Nothing definite was decided with regard to the organization of a special Forest Survey Branch, although the pressing need of forest maps is fully recognized. Such surveys as were done departmentally were of an unimportant nature.

Bombay.

23. The forest survey in the Thana district made no great progress—only 52 square miles having been plane-tabled and mapped, and 167 square miles triangulated. The cost was very high. In Southern Khanapur 154 square miles only were plane-tabled, the cost being relatively equally great. It has been suggested to the Bombay Government that the cost of a survey on the scale of 8″ to the mile is probably out of proportion to its advantages; also that a want of proper understanding between the Forest Department and the officers of the Survey of India, and the absence of a preconsidered programme, have perhaps tended to retard progress and to enhance the expenditure.

WORKING-PLANS.

General.

24. The majority of Working-Plans submitted up to date tend to show that, in the previous working of our forests, we have been erring too much on the side of caution, and that, under well-considered Plans, the outturn of material is susceptible, in general, of a large increase.

The following Working-Plans were completed during the year:—

Serial Number.	Province.	District.	Forest	Area of Working Circle, in square miles.	Kind of Forest.
1	Bengal	Darjeeling	Bamonpokri	2	Sâl and miscellaneous high forest.
2	North-West Provinces and Oudh	Kumaon	Ranikhet	27	Pine, oak, and miscellaneous high forest.
3	" "	"	Naini Tal	58	Do do do
4	" "	"	Nindhaur	90	Sâl and miscellaneous high forest.
5	" "	Garhwal	Ganges	..	Do do do.
6	" "	Dehra-Dun	Dehra-Dun	67	Do do. do.
7	Berar	Ellichpur	Raipur	84	Teak and miscellaneous high forest.
8	Bombay	Thana	Virár		Information not afforded; but the principal species is, doubtless, teak.
9	Sind		Laikpur		
10*	Madras	S Combatore	Sholakarar		
11*	"	"	Tekadi Leased Forests	...	
12	"	Salem	Morur		
13	"	Trichinopoly	Cauvery plantations		
14	"	North Arcot	North Arcot plantations	...	...
15	"	Nilgiri	Nilgiri	..	.. ..

With the exception of such Working-Plans as were prepared in Madras and Bombay, and which are not submitted for the opinion of the head of the Department, all the above were sanctioned by the local Governments concerned, on the recommendation to that effect of the Inspector General of Forests.

25. The following Working-Plans were in course of preparation during the year:—

Serial No	Province.	District	Forest.	Description of Forest.
1	Bengal	Darjeeling	Darjeeling	Pine, oak, and miscellaneous high forest
2	North-Western Provinces and Oudh.	Kheri	Kheri Sâl Forests	Sâl and miscellaneous high forest.
3	North Western Provinces and Oudh.	Tehri Garhwál	Tehri Leased Forests	Deodar, pines, and miscellaneous high forest.
4	North-Western Provinces and Oudh.	Jaunsar	Chakrata	Pine, oak, and miscellaneous high forest.
*5	Punjab	Umballa	Kalesar	Sâl pole forest.

* This Working Plan was completed in 1885-86, but was rejected at the time, and subjected, during the year, to a revision

Serial No.	Province.	District.	Forest.	Description of Forest.
6	Punjab	Rawalpindi . .	Murree . . .	Pines and miscellaneous high forest.
7	„	„ . .	Kahuta . . .	Pines and miscellaneous high forest.
8	„	Goojarat . .	Bhera Rukhs . .	Jhand and miscellaneous forest.
9	„	Chamba . . .	Pangi (leased forests) .	Deodar, pines, and miscellaneous high forest.
10	„	Simla Hills . .	Kotgarh . . .	Pines and miscellaneous high forest.
11	„	.....	Kotkhai . . .	Pines and miscellaneous high forest.
12	Assam	Garo Hills . .	Dambu . . .	Sâl and miscellaneous high forest.
13	Coorg	„ . .	Nalkeri-Hutgut .	Teak and miscellaneous high forest
14	Madras	South Coimbatore	Chinnar . . .	Teak, the principal species.
15	„	„ .	Noyel-Vellengin	
16	„	South Arcot . .	Tiruvannamalai .	
17	„	„ . .	Shónankuppam (plantation).	
18	„	Madura . . .	Alargarmalai . .	

Central Provinces.

s has prevented anythi
Working-Plans of a
he present than in
owing to the comparat bsence of large timbe
come when these neces: vorks can no longer
Central Provinces, the (istances of which will soon be entirely changed
as the country is opened ... by the new railways.

Burma.

27. In Burma, the disturbed state of the country militated against any progress being made under this head.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

(I.)—PROTECTION.

General.

28. The subjoined statement compares the results of protection for the present and the past year, as regards the number of offences taken cognizance of under the Forest Acts:—

PROVINCE.	Number of Cases taken into Court.		Number of Cases compounded.		Total.		Proportion of Convictions to total Number of Cases decided by the Courts.	
	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.
							%	%
Bengal	839	624	882	739	1,721	1,363	89	86
North-Western Provinces & Oudh	248	211	*251	†152	499	363	78	85
Punjab	1,299	1,114	316	1,070	1,615	2,184	81	79
Central Provinces	422	397	6,264	8,444	6,686	8,841	79	83
Burma	870	250	312	66	682	316	91	85
Assam	113	51	50	79	163	130	83	67
Coorg	10	22	‡	§	10	22	70	61
Ajmere	81	53	118	70	199	123	93	92
Baluchistan	5	1	54	59	59	60	75	100
Andamans	...	1	...	...	...	1	...	100
TOTAL	3,387	2,724	8,247	10,679	11,634	13,403	84	82
Berar	406	422	...	...	406	422	76	83
Total Bengal Presidency	3,793	3,146	8,247	10,679	12,040	13,825	83	82
Madras	2,333	2,002	700	412	3,033	2,414	69	61
Bombay	1,045	973	5,805	5,324	6,850	6,297	67	66
GRAND TOTAL	7,171	6,121	14,752	16,415	21,923	22,536	72	72

* In the Oudh and School Circles only. The figures (785) for the Central Circle relate to *persons*, not cases

† In the Oudh and School Circles only. The figures (368) for the Central Circle relate to *persons*, not cases.

‡ Compensation to the amount of R178 was recovered for damage done to Sandal trees, also for illicit grazing.

§ Compensation to the amount of R197 was recovered for damage done to Sandal trees.

The total number of cases brought into Court was 17 per cent. in excess of the previous year, the average of convictions remaining the same (72 per cent). A marked increase in this connection took place in Assam, amounting, as it did, to 122 per cent., in Burma 48 per cent., in Bengal 34 per cent. In Bengal, the Punjab, Burma, Assam, Ajmere, and generally in the Provinces under the Government of India, a very high average of convictions was obtained. On the other hand, the results, as regards Madras and Bombay, are disappointing, although a slight improvement on the previous year. The total number of compounded cases decreased by 10 per cent., this result being, however, entirely due to the great diminution in the number of these cases in the Central Provinces and the Punjab, almost all the other Provinces having shown an increase under this head. The decrease in the Punjab is not explained; but that in the Central Provinces is said to be due to a greater regard for the Forest Law in a few districts hitherto noted for an opposite state of things—for instance, Sambalpur.

Bengal.

29. The majority of the cases occurred in the Sunderbuns Division and the Darjeeling and Khorda Sub-Divisions. Half of the cases tried in Court were on

account of "Other offences," and it is to be regretted that no information is given in connection with the character of these offences. One-fourth of the cases are the result of illicit grazing. No such detail is given in reference to the cases compounded; but it is satisfactory to learn that in no single instance was an appeal made against the findings of forest officers under Section 67 of the Forest Act.

North-Western Provinces and Oudh.

30. In the Central Circle the number of cases decreased by 8 per cent., and the percentage of convictions decreased from 84 to 62. This very unsatisfactory result is explained as being chiefly due to acquittals by the Cantonment Magistrate, Ranikhet, in cases of illicit cutting of grass in reserved forest; the evidence of a single forest-guard and of the cut-grass not being considered sufficient.

In the Oudh Circle, there was a large increase in the number of cases—all in Gonda and Bahraich—and about one-half of the cases were on account of illicit grazing. Out of 108 cases tried in Court, 106 convictions were obtained, which is extremely satisfactory.

In the School Circle, 12 cases were tried in Court, with the result that 4 were dismissed. There were 129 compounded cases, against 109 in the previous year.

Punjab.

31. There was a great and unexplained decrease in the number of cases compounded. The cases taken into Court increased from 1,114, in 1885-86, to 1,299; the percentage of convictions improving from 79 to 81 per cent. The increase was principally on account of illicit grazing; and more than one-third of the total number of cases occurred in the two districts of Montgomery and Kangra. It will be observed that more than a third of the cases over the whole of the Bengal Presidency belonged to the Punjab, notwithstanding the fact that the area of its Reserved and Protected forests aggregated only 1,579 square miles, against 41,383 square miles for the rest of the Presidency. In Ajmere and Bombay alone do we notice anything like this state of things, and the cause is the same in each instance, namely, the distribution of the forest area, in more or less isolated patches, over a populous agricultural country, which the spread of cultivation is rendering more and more dependent on the provision made, in the former connection, by the Forest Department. In the North-Western Provinces and Oudh such forests *as remain* are concentrated, for the most part, in unculturable and, therefore, unpopulous localities; while, elsewhere, as in the Central Provinces, Assam, Burma, Bengal, Coorg, Berar, the Government forests constitute as yet but a small fraction of the total wooded area. Every year, as this latter undergoes conversion by the plough, the proportion of forest offences will probably increase, until such time as the populations in question become progressively used to the unaccustomed habit of submitting to the regulations and restrictions that are necessitated by forest economy all over the world.

Central Provinces.

32. Most forest offences are here compounded. The total number of cases taken cognizance of decreased considerably during the year. This decrease appears to have occurred mainly in the districts of Chindwara and Sambalpur, in which latter district a few judicious prosecutions are stated to have checked forest offences. Be this as it may, the percentage of convictions decreased during the year from 83 to 79. In Betul, out of 157 persons prosecuted, 100 were acquitted; and, again, in Mandla 28 cases were dismissed out of 102; in Jubbulpore

13 out of 60. This is not satisfactory. Of the 422 cases taken into Court, 313 were for unauthorized felling or appropriation of produce.

Burma.

33. The number of cases increased during the year by 48 per cent., which is mainly attributable to more careful scrutiny of timber at the Kado revenue station, resulting in a large increase of cases connected with the submission of incorrect timber reports. Of 135 cases instituted in the Pegu Circle, 60 were for either boiling cutch without a license, or felling undersized cutch trees. The percentage of convictions in Court for both Circles reached the very high average of 91, and is only surpassed by Ajmere. This indicates the very great care taken in Burma not to prosecute in the absence of very sound reasons for doing so.

Assam.

34. The number of new cases tried in Court increased during the year from 51 to 113; while the number of cases compounded decreased from 79 to 50. They were nearly all petty cases; and when it is considered that these offences were committed over a total area of 3,932 square miles of Reserved and Protected forests, the conclusion is that either the Government forests are very much respected by the people, or that there is such a sufficiency of wooded waste as to render encroachments on the Government forests superfluous. The latter circumstance, added to that of the people being able to obtain so much produce free of payment, is probably the true explanation.

Ajmere.

35. The increase in the number of cases, made up chiefly of illicit felling of wood within the reserves, is said to be due to the very scanty rainfall and the partial failure of the crops in both districts. All wood cut and removed in this way was intended either for the Ajmere or Beawar markets. The number of cattle impounded during the year amounted to 4,771 head, or 34 head per square mile, of which nearly one-half were sheep and goats. The very strict conservancy demanded in this connection by the young and recent growth which constitutes the rising Ajmere forests—a growth that owes its very existence to the exclusion of fires and cattle during the past 12 years—is sufficient reason why we should view this enormous extent of cattle-trespass within a period of 10 months with alarm. It is attributed to the poor rainfall and the consequently insufficient supply of grass outside the Reserves. It is noted, with regret, that this cause led to the whole of the forests being from January opened to unrestricted cattle-grazing.

Berar.

36. The proportion of convictions was 7 per cent. lower than in the previous year.

The Ellichpur and Akola districts show off worst in this respect. It is reported that the cases were generally of a trifling nature, and connected with offences outside the Reserves.

Madras.

37. In the Southern Circle there was a decrease in the number of cases tried in Court amounting to 35 per cent, while the percentage of convictions rose from 66 to 70. The number of cases compounded increased from 266 to 460. The latter were principally on account of unauthorized "Kumri" clearing in South Canara.

In the Northern Circle the total number of cases disposed of in Court was 957, and the percentage of convictions 69 only. In Nellore, Bellary, and

Ganjam this percentage descended to the low figures of 40, 48, and 65, respectively. All this seems to show want of care in instituting prosecutions in the Northern Circle.

Bombay.

38. The total number of cases (including those compounded) increased during the year by 9 per cent. This is equivalent to 0·5 cases per square mile of Reserved and Protected forests, as against—

1·4	per square mile in	Ajmere.
0·8	" "	Punjab.
0·3	" "	Madras. Central Provinces. Berar.
0·2	" "	Bengal.
0·1	" "	Burma.
0·04	" "	Assam. Coorg.

Under "Punjab" we have already referred to the causes tending to an increase of prosecutions in Provinces circumstanced like Madras, Ajmere, Bombay, and the Punjab.

The result of prosecutions was more satisfactory than in the previous year in the Southern and Sind Circles, but less so in the Northern, where, however, the result may be attributed almost exclusively to the remarkable failure of prosecutions in Satara, where the non-success of 71 out of 87 cases conclusively shows that charges were made with extreme carelessness, and without adequate preliminary enquiry.

(II.)—Protection from Fire.

General.

39. The following table exhibits the areas under fire-protection, and the results of the year's operations compared with those of 1885-86:—

Province.	Area, in square miles.				Proportion of Failures to Area attempted.		Cost.				Proportion of Area under Fire-Protection to total Area of Reserves.		Year when Fire Conservancy commenced.
	Attempted.		Protected.				Per Square Mile protected.		Per Acre protected.				
	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86	1886-87.	1885-86.	
					%	%	R	R	Pies.	Pies.	%	%	
Bengal	1,311	1,296	1,139	1,038	13	20	12	15	3	4	31	26	1872
North-Western Provinces and Oudh	1,801	1,481	1,602	1,441	11	3	23	27	7	8	*50	*41	1869
Punjab	374	251	282	243	25	3	6	4	2	1	*24	*18	1871
Central Provinces	1,556	1,434	1,441	1,364	7	5	13	13	4	4	8	7	1864
Burma	303	296	280	238	8	20	51	60	15	18	7	†7	1857
Assam	278	234	275	227	1	3	34	39	10	12	10	10	1873
Coorg	201	199	162	179	19	10	19	16	6	4	83	86	1876
Ajmere	139	144	139	144	...	...	5	4	2	1	‡100	‡100	1874
Total	5,963	5,335	5,320	74	11	9	19	20	6	6	16	15	...
Berar	1,044	1,046	1,021	1,002	2	4	6	6	2	2	94	94	1870
Total Bengal Presidency	7,007	6,381	6,341	5,876	10	8	17	18	5	5	18	17	...
Madras	2,250	1,634	2,059	1,592	9	3	14	11	4	3	*63	*56	1867
Bombay	11,078	11,429	10,291	10,766	7	6	‖	‖	...	...	‡78	§88	1874
Grand Total	20,335	19,414	18,691	18,234	8	6	7	7	2	2	36	36	...

* Leased Forests included in area of "Reserves."

† *Taungya* areas not included in "Reserves."

‡ In Sind Circle, 100 per cent.; in Northern and Southern Circles (taking Reserved and Protected forests into account, as done by the Conservators), 77 per cent.

§ In Northern and Sind Circles, 95 per cent.; in Southern Circle (taking Reserved and Protected forests into account, as done by the Conservator), 76 per cent.

There was a total increase during the year in the area attempted of 891 square miles. The principal increase occurred in Madras, the North-Western Provinces and Oudh, and the Punjab.

40. The percentage of area thus attempted to the total area of Reserved and Protected forests stood as follows for the different Provinces :—

Ajmere	100
Coorg	83
Bombay	78
Berar	68
North-Western Provinces and Oudh	49
Madras	20
Punjab	19
Bengal	18
Central Provinces	8
Assam	7
Burma	.6

In Burma, Assam, and Bengal considerable areas are more or less self-protecting, either because composed of evergreen forest, or for other local reasons. Thus, in Assam no less than 1,802 square miles of Reserved forest are stated to be so situated, and in Bengal 3,309 square miles. This raises the percentage of fire-protected areas for Assam and Bengal, in the case of all Reserved and Protected forests, to 53 and 64 respectively. In the Central Provinces, the area under protection is larger than anywhere else; but, compared with the total area of the Reserves, it will be seen that fire-protection is there, notwithstanding, in a very backward state. Of 20,000 square miles of Reserved forest, only 1,556 were under protection in the Central Provinces, and the increase of 122 square miles during the year was, as regards progress, disappointing.

41. The total area under protection in all the Provinces (including Madras and Bombay) was 20,335 square miles; and out of this 1,644 square miles were burnt, which is equivalent to 8 per cent. of the area attempted. This is satisfactory, although not equal to the results of the previous year. From the point of view of success, the Provinces stood as follows :—

Ajmere, percentage of burnt area to protected area	0
Assam	1
Berar	.2
Bombay, Central Provinces	7
Burma	8
Madras	9
North-Western Provinces and Oudh	11
Bengal	13
Coorg	19
Punjab	25

The cost was, for reasons already explained in previous Reviews, least in Bombay, where it averaged 2 annas per square mile protected, and highest in Burma with R51 to the square mile. If we except Bombay, the average cost came to R16 per square mile, which is the same as that in the previous year.

Bengal.

42. In Bengal 13 per cent. of the area attempted was burnt, against 20 per cent. in the previous year. The principal fires were, as usual, in the Singhbhum and Orissa forests, which are severely handicapped owing to the

unsettled and uncleared boundaries of adjoining semi-independent States. On the other hand, severe fires, attributed to departmental neglect, took place in the Jalpaiguri Division. The cost per square mile was R12 against R15 in the previous year.

North-Western Provinces and Oudh.

43. There was a very considerable increase in the area attempted amounting to 320 square miles; but the percentage of failure was .11 against 3 only in the previous year. The increase in the area attempted was equivalent to 50 per cent. of the Reserves. In Oudh, 144 additional square miles were attempted to be protected for the first time, and in the School Circle 100 square miles. The principal fires occurred in the Pilibhit and Bhira districts of Oudh, where 74 square miles were burnt out of an area attempted of 122 square miles. Although these disastrous fires are attributed in part to incendiarism, it is very disappointing to learn that, while even then the forest establishment failed to work intelligently, it in other respects caused some of the fires through culpable negligence and stupidity.

In the Dehra-Dun and Saharanpur districts of the School Circle, there were numerous fires passing over a total area of 57 square miles. And in the Central Circle the almost entire burning of the Ranikhet Reserve has to be recorded as one of the worst features in a most unsuccessful year.

Punjab.

44. The year 1886-87 was a disastrous one, the excessive and continued drought having caused a number of forest fires probably without precedent in the annals of the Punjab Forest Department. Of an attempted area of 374 square miles, 92 square miles were swept over by fires. It is stated that, apart from the drought, one of the main causes of fires lay in the careless manner in which the villagers, living off the forests, burned the rubbish and standing grass on their fields. Legislation on this subject is badly needed. The most serious fires occurred in this way in Rawalpindi.

Central Provinces.

45. In the Central Provinces, again, the year under review was the worst season known for many years in respect of fire-conservancy. Of an attempted area of 1,556 square miles, 115 square miles were burnt over. Still, compared with other Provinces, fire-protection is here very successfully performed; and this being the case, there is every reason for being dissatisfied with the small progress made in extending the sphere of operations, and this the more so that, while the absence of rights, or even concessions, and the settled position of the forests under Chapter II of the Act, add much to the facilities for protection, the condition itself of the forests is such as to perhaps demand this protection more urgently than is generally the case in India.

Burma.

46. In Burma (Lower) 303 square miles were attempted to be protected, with successful results in the case of 280 square miles. This is a great advance on the previous year, when the percentage of failures aggregated 20 per cent. The year is said to have been a particularly favourable one for operations of the kind, owing to showers during the hot season, and the early setting in of the rains. In the Tenasserim Circle only 2 acres were burnt out of a total area of 78,000 acres.

All the fires took place in the Pegu Circle, and are generally attributed to the action of dacoits in the Prome and Tharawaddy Divisions. In this way, the greater part of the Nyanle Reserve was burnt, and about a fifth of the Mokha-Bilin. All the fires may be said to have originated in the disturbed state of the country. The cost of fire-protection, although cheaper than in the previous year, is still very excessive, namely—R51 per square mile, or 15 pies per acre.

Assam.

47. Fire-protection in Assam was again extremely successful, only 3 square miles being burnt over out of 278; and the cost of the operations decreased from 39 to 34 rupees per square mile. In Assam, no less than 1,802 square miles of Reserved forests are, owing to their evergreen character, said to be self-protecting. This leaves 627 square miles of Reserved forests still exposed to fire; and, using the same proportions, some 400 square miles of Protected forests, and some 2,000 square miles of Unclassed forests and Waste lands similarly exposed, both the source, it is to be hoped, of future Reserves. Evidently, there is still much to be done in Assam, and the progress made in adding to the specially protected area is not what it should be. The cost is also still very high.

Coorg.

48. The total area of the Coorg Reserved forests being only 242 square miles, it is disappointing to find that the whole of it is not fire-protected; that only 2 square miles were added to this area during the year. The proportion of failures was nearly double that of the previous year, while the cost per square mile was also considerably higher. The largest fire occurred in the Hatgut Reserve, where it was calculated to do the most damage. Altogether, fire-conservancy in Coorg is in a very unsatisfactory condition, and it has been suggested that the Forest Officer in charge should be sent for a time to the Central Provinces to learn this most important branch of forest-protection.

The very considerable tract occupied by the Ghaut Forests—349 square miles — is, owing to the evergreen character of these forests, self-protecting. No measures have, as yet, been taken for the protection of "sholas."

Ajmere.

49. Out of 139 square miles 314 acres were burnt over. The cost was R5 per square mile, against R4 in the previous year.

Berar.

50. Fire-protection in Berar was, as usual, very successful, only 2 per cent. of the area operated on having been burnt, and if we except the 435 square miles of Babul-Buns scattered in unimportant clumps and patches throughout the Province, the so-called Chikalda Reserve, of which protection is forbidden for sanitary reasons, and some 66 square miles of the grassy downs constituting the Amraoti Hills Reserve, the whole of the Reserved forests now existing were under protection.

Of the 605 square miles of Reserved forest in the Melghât, only 1 square mile was burnt. A friendly population, special local facilities, and an energetic Deputy Commissioner, have been the main causes of this extraordinary immunity as regards the hilly tracts of the Ellichpur District. Elsewhere, we do not notice the same success. In Wun 12 per cent. of the area attempted, was burnt, against 16 per cent. in the previous year; and in Amraoti 11 per

cent., against 10 in the previous year. Deducting the Melghât, the percentage of failures for the Province is 5 for the present year and 10 for the past year.

Madras.

51. There was a large increase in the area under protection amounting to 467 square miles; but, on the other hand, in spite of the expenditure increasing from 11 to 14 rupees per square mile, the results were very unfavourable when compared with those of the previous year. And this state of things appears to have been mainly due to the great want of success in the Northern Circle, where 17 per cent. of the forests under special protection burned, the operations costing R25 per square mile protected. With the aid of the ordinary staff, and without any special organization of importance, it was attempted to protect in this same Circle 679 square miles. The failures in this connection amounted to 10 per cent., and the cost to R2-11 per square mile protected. The Conservator's report in regard to these fires, is meagre and disappointing, little or no detail being forthcoming, or explanation given.

Bombay.

52. In the Northern Circle and in Sind, fire-protection embraces, and with great success, almost the whole of the areas under the control of the Forest Department, or altogether 8,737 square miles; whereas, in the Southern Circle, this protection applies to less than half of the areas corresponding, namely, 2,341 square miles. In the two former Circles, again, the proportion of failures amounted during the year to 3 per cent. only, while it attained to as much as 21 per cent. in the Southern Circle. Further, the area under protection in the Southern Circle actually decreased during the year by the very large area of 1,912 square miles. Seeing the very low cost of protection in the Bombay Presidency (from 0 to 5 annas per square mile), nothing could be more unsatisfactory than this retrograde progress in the Southern Circle, notwithstanding the greater difficulties that protection has there to encounter.

(III.)—Protection from Cattle.

General.

53. Conservators will in future be instructed to submit an annual statement, showing for each forest the area grazed over, and the number of cattle grazing. A statement of the kind is only secondary in importance to that relating to fire-protection, and, without it, it is not possible to study properly for each Circle or Province the subject of forest protection from one of its most important aspects, namely, grazing in excess, or under conditions which should preclude grazing altogether.

Bengal.

54. In Bengal there was no difficulty, it is reported, as regards the regulation of grazing in most of the Reserved forests; but it would have been more satisfactory if this control had been illustrated by an explanatory statement showing its nature and extent in each case. The Conservator points to the evil effects of grazing on natural reproduction in the hill forests of Darjeeling, and instances, in support of his remarks, two compartments, the one closed to grazing during 12 years, and the other open to cattle for the same period. While in the former case both saplings and seedlings exist, in the latter the saplings are said to be rare, and the seedlings to be altogether absent.

North-Western Provinces and Oudh.

55. In the Central Circle, the area closed to grazing absolutely, or open for very limited periods only, is said to aggregate 31·3 per cent. of the forest area. About 40 square miles were added to the closed tracts during the year. Some of the areas open to rights in Ranikhet, in Kotah (Garhwal) and in parts of the Ganges Division, are said to be so injured by cattle as to check in many places, and elsewhere prevent, reproduction even in localities successfully protected from fire during many years. It is hoped that this state of things will be remedied at an early date under a system which, while closing certain areas in rotation, will supply the right-holders with cut-grass free of dues from the closed portions of the forests. The lopping of trees for fodder still causes much damage, although, in Garhwal, it has been made the subject of special regulations. The difficulty appears to be that, at certain seasons, there is no other fodder available for the cattle. But this would seem to show that the number of cattle entertained is in excess of all natural provision for them; since it cannot be allowed for a moment that, *in ordinary years*, the cattle should be permitted to destroy trees and forests in the absence of other provender. Such a state of things, if universally acted upon, could have but one ending, namely, the destruction not only of this source of fodder, but of the source of fuel and timber wherever the same species of tree had to do for all these purposes; and, where this last-mentioned condition did not obtain, the consequence would perhaps be the destructive thinning out of the forests. Of course, if the people are once permitted to lop, they will find it in their interest to maintain herds in proportion to the food-supply thus placed within their reach for the time being: this is so all over the world, and is only human nature.

The Oudh Conservator gives a statement showing the number of cattle that grazed in his Circle during the year, or during fractions of the year; but since he does not mention the forest areas grazed over, his information is of very little value from a protective point of view.

The School Circle Conservator furnishes a summary of the forest areas open to grazing, which is, however, not reconcilable with the total area of his forests given elsewhere. He also gives the number of cattle that grazed during the year; but, in the absence of any corresponding detail as to the proportion of cattle to area for the different forests, this information is of little value.

Punjab.

56. The failure of the winter and spring rains caused the season to be a bad one for cattle. The area of forest closed to all classes of animals throughout the year was increased from 513 square miles to 691. This is but half the area of the Reserved forests. On the other hand, 1,232 square miles were closed against goats, sheep, and camels. No table is given to indicate the relative pressure of the grazing in the different forests. Considering the vast areas of grass-lands which are open to the people in parts of the Kangra district, and the comparatively small number of cattle to be found there, it is urged that we ought to be able to close much larger areas than are closed at present. The area of forest closed in Kulu is strikingly small, being only 3 square miles. Nothing is said as to the damage caused by grazing in the open, or partially open, tracts that constitute still some 70 per cent. of the Punjab forest area.

tigation. It is all very well to obtain a revenue from this source; but the condition of the forests has also to be considered, and that of a good many of the Central Provinces Reserves is not such as to admit of the present practice of almost unrestricted grazing which extends to so considerable a part of their area.

The Central Provinces are so well situated as regards a plentiful supply of appropriate grazing lands in all the districts, that the necessary provision, as regards pasture, should not, it is believed, interfere with the requirements of such forests as it is desirable to maintain in a permanent manner for the supply of forest produce.

Coorg.

58. The legal settlement of rights in the Coorg forests is still pending, and militates against a proper regulation of the grazing. A list is given by the Deputy Conservator of the number of cattle that are "supposed" to graze in the Reserves, and we deduce from it that, on the average, only 91 head graze to the square mile. It was noticed that, in some forests, grazing had greatly increased during the year. The circumstance of so much land being converted into coffee plantations, and of good cart-roads making the country accessible, is tending to bring more cattle to the forests than was hitherto the case.

Ajmere.

59. The monsoon of 1886 was a bad one, and all blocks in Merwara had to be opened early in February, and those in Ajmere early in March, to unrestricted grazing, without which there would have been a cattle-famine in the Province. Unsatisfactory as this is from a forest point of view, the Department can be congratulated at having, through its reservation of certain tracts, provided a store of provender against the emergency of an insufficient rainfall.

Berar.

60. "Light-grazing" was again allowed in the Reserves. As the lightest grazing would cause, under certain conditions, an amount of damage out of all proportion to the number of cattle grazing, it is hoped that it is only permitted in cases where these conditions do not obtain. The special reports sent to the Conservator on the subject would seem to show that this point is attended to; otherwise, it would be inconceivable that, with plenty of pasture outside the Reserves and no claims or pretensions to pasture inside the Reserves, we should thus voluntarily come forward and invite the people to bring their herds into the few remnants of forest that have been spared to us in South Berar.

Madras.

61. No statement is given showing the area open to grazing, and the relative pressure borne in this way by the different forests. But, from the Conservators' reports, it would appear that, apart from the requirements of fire-protection, little or no restriction was imposed in a large number of districts, the consequences being very unsatisfactory, both from a sylvicultural and a financial point of view. In the Southern Circle alone, one-fourth of the total censused number of cattle grazed free of any payment; and in South Coimbatore, South Arcot, Madura, Chingleput, Tanjore, and Tinnevelly, the damage done by cattle and herdsmen is said to have been considerable.

(IV.)—Natural Reproduction.

Bengal.

62. Referring to the hills forests, the Conservator complains of the impediment to reproduction presented by cattle-grazing, considering it impossible in areas constantly grazed over, and where the soil is not permitted to re-establish itself. As regards the plains forests, natural reproduction, especially of sâl, was reported to progress favourably, wherever conditions were conducive to such an end. In Chittagong, the Mitenga bamboo seeded profusely in April and May 1886, along both banks of the Karnafuli river, and in the Sitapahar Reserve, resulting in a dense crop of seedlings on every road and clearing in the forests.

North-Western Provinces and Oudh.

63. The year was a notable one for the seeding of the sâl, and for the most successful germination of that species. It was also a notable one for the occurrence of an extraordinarily severe frost, which committed great havoc in each of the three Circles during the month of February, not only in damp forests at low elevations, but also high up the valleys and hill sides of the outer Himalayan ranges. Saplings up to 20 feet in height are said to have suffered severely in this respect. When speaking of the reproduction, each Conservator, it is noticed, has been careful to make reservations as regards "overgrazed areas;" and instances are given of the very superior progress observed in protected tracts as distinguished from neighbouring areas to which protection had not extended.

Punjab.

64. Natural reproduction in the deodar forests is everywhere reported to have been satisfactory, and blanks are said to be gradually filling up with young growth, where immunity from fires and cattle has been secured. On the other hand, in the forests of the low hills, such as the Pabbi, the Salt Range, etc., etc., where the forests have been reduced in extent and natural vigour of growth by centuries of mismanagement and bad treatment, conditions are still very unsatisfactory, in spite of continuous conservancy.

Central Provinces.

65. The Conservator's remarks amount to this, that reproduction is not good in localities from which cattle and fires are not excluded; and since the area subject to protection of either kind is relatively small, the condition of natural reproduction in the Central Provinces is, generally speaking, unsatisfactory; in fact, it is mainly confined to coppice-shoots.

Burma.

66. No information is given on this head.

Assam.

67. Natural reproduction was reported to be everywhere excellent, and

particularly so in the case of sâl. In the mixed forests, the regeneration of the better species might, it is said, be much facilitated by the removal of inferior kinds; but the small revenue as yet obtained is a stumbling-block in the way of forest improvements in Assam.

Coorg.

68. The teak seeding is said to have been fairly abundant, and its reproduction good where weedings had taken place, though *Grewias*, and other inferior species had simultaneously multiplied under these conditions.

Ajmere.

69. Five pattern areas were fenced in, and a careful record will be kept of the results of their protection from cattle. The year was an extremely bad one for reproduction. Not only was the drought a very severe one, but, during February, frosts were so very severe that numerous trees—babul—over 30 feet in height, and 2 to 3 feet in girth, were more than half-killed, and smaller trees completely so. Seed was, moreover, not plentiful during the year.

Berar.

70. The continued success that has for many years attended fire-protection in Berar—at least in the Melghât—is reported to be now rewarded in the form of abundant and successful reproduction in the more important forest tracts.

Madras.

71. The Conservator of the Southern Circle says, "In the fire-protected areas natural reproduction is progressing favourably. The results are more apparent in areas from which cattle also have been rigidly excluded."

Bombay.

72. The Conservator of the Northern Circle speaks very hopefully of reproduction in all forests whence fires and cattle are excluded, and notices that the general improvement in the state of the Reserves has been commented upon very frequently by outsiders, and this with special reference to hills which were formerly bare, but are now gradually covering over with a bushy vegetation—the advance-guard of a higher order of plants. He expresses his conviction that the Forest Department could, by simple and inexpensive means, restore timber to all the bare hills of the Deccan, provided, it is presumed, that fires and cattle are excluded, and the work of Nature not interfered with in an irrational manner. In the Panch-Mahals, natural reproduction was stated to be fair, and even excellent, but for the havoc committed by cattle in certain forests.

In Sind, out of 700 square miles of forest, only 20,000 acres were closed to grazing during the year, and it is believed that only camels and goats were excluded from these in the generality of cases. The results of closing for reproduction are said to be very satisfactory, where the young growth is not killed by fires or frost. It is not stated what the condition of the forests is in the 670 square miles not closed for reproduction. As regards the Southern Circle of Bombay, we are left a good deal in the dark.

(V.)—Artificial Reproduction of Forests.

General.

73. The area of plantations and cultural operations is exhibited in the following table, which compares the results of the present and the previous year:—

Province	At the commencement of the year.				Added during the year.				Excluded during the year.				Balance at the close of the year.			
	Regular Plantations.	Cultural Operations	Taungyas	Total.	Regular Plantations	Cultural Operations.	Taungyas.	Total.	Regular Plantations	Cultural Operations.	Taungyas.	Total.	Regular Plantations.	Cultural Operations	Taungyas.	Total.
	Area, in acres.															
Bengal	2,150	931	...	3,081	310	19	...	329	...	...	...	...	2,460	950	...	3,410
North Western Provinces and Oudh	3,503	2,465	...	5,968	470	1,584	...	2,054	1,451	1,074	...	2,525	2,522	2,975		5,497
Punjab	15,445	3,095	...	18,540	70	1,286	...	1,994	2,319	187	..	2,536	13,804	4,194	...	17,998
Central Provinces	...	...	...	...	...	...	...	...	...	..	..	...	...	...	...	...
Burma	3,746	3,321	10,318	17,385	82	...	1,534	1,616	...	...	193	193	3,828	3,321	11,659	18,808
Assam	1,391	106	...	1,497	...	...	...	...	2	...	...	2	1,389	106	...	1,495
Coorg	1,002	38	...	1,040	136	...	..	136		28	...	28	1,138	10	...	1,148
Ajmere	416	22	...	438	19	...	...	19	25	...	...	25	410	22	...	432
Baluchistan	52	42	...	94	...	1	...	1	1	...	...	1	51	43	...	94
Andamans	43		...	43	...	...	...	...	...	...	...	...	43	...	...	43
Total	27,748	10,020	10,318	48,086	1,725	2,890	1,534	6,149	3,828	1,289	193	5,310	25,645	11,621	11,659	48,925
Berar	1,409	6,546	...	7,955	50	1,947	...	1,997	...	...	..	...	1,459	8,493	...	9,952
Total Bengal Presidency	29,157	16,566	10,318	56,041	1,775	4,837	1,534	8,146	3,828	1,289	193	5,310	27,104	20,114	11,659	58,877
Madras	18,659	2,133	*31,413	52,205	607	1,773	150	2,530	1,057	56	..	1,113	18,209	3,850	31,563	53,622
Bombay	5,138	120,818		125,956	1,557	33,314	...	34,871	429	3,649	...	4,078	6,266	150,483	...	156,749
Grand Total	52,954	139,517	41,731	234,202	3,939	39,924	1,684	45,547	5,314	4,994	193	10,501	51,579	174,447	43,222	269,248

* These are "Topes"

Bengal.

74. The extensions under regular plantations cover 270 acres, and, under cultural operations, 19 acres. The average cost per acre of the extensions was R26. While little or nothing is said as to the condition and results of pre-existing plantations and cultural operations, it is noticed that the cultural operations of the year involved a good deal of expense, with no proportionate gain.

North-Western Provinces and Oudh.

75. The fruit of the Ranikhet Gardens was sold for R943, on auction, against R1,875 secured in the previous year by retail sales; 9,000 fruit trees, and some 5,000 forest trees, were distributed free from the same garden.

The important Sakhui Sissu plantation in Gorakhpur was extended by 430 acres.

In the School Circle inferior species were weeded out for the encouragement of sâl, and other first class timber-trees, over a total area of 1,313 acres, of which 1,143 acres are in the Dehra-Dun.

Punjab.

76. Allowing for corrections of area and omissions, the net increase to the regular plantations aggregated 239 acres for the year under review, of which 189 are in Dugshai and 22 in Shahdera. On the other hand, the total area of plantations was reduced by 2,349 acres, of which 2,329 resulted on a correction of area in the case of the Changa-Manga plantation.

Considerable progress was made in planting and sowing patches with deodar, principally in Chamba, Kulu, and Bashahr.

In Chamba, 1,871 acres were weeded of inferior species.

Central Provinces.

77. In the Central Provinces, artificial measures for the propagation of the important species are unnecessary. Cattle and fires are the two great impediments to progress in the forests of the Central Provinces.

Burma.

78. In the Tenasserim Circle the area of taungya teak plantations was increased by 745 acres; but over 290 acres the ground was but indifferently stocked. In the Pegu Circle, some 789 acres of new taungya plantations were added, costing on the average R10·8 per acre of 835 seedlings.

Assam.

79. The order for retrenchments prevented any extensions during the year; but every care was taken of the areas planted in former years, the growth of the trees in which is reported to be all that could be desired.

The Cera rubber-tree experiment has proved the climate of Assam to be unsuited to that species. The growth of the *Pithecolobium* trees and the Paper-Mulberry (*Broussonetia papyrifera*) continued to be very satisfactory.

Some new rubber-yielding plants (a species of *Landolphia* and *Castilloa elastica*) were experimented with. The *Landolphias* were reported to be thriving.

Coorg.

80. The regular plantations were extended by 136 acres, of which 91 were

planted with teak and 25 with sandal. The total area included 693 acres of teak and 340 of sandal, the balance being described as "fuel."

The cost of teak plantations up to date had been R100 per acre, the initial cost during the year being R35-13-0 per acre. This is extremely heavy, as compared with the results obtained in other Provinces, and should militate against the works proving profitable hereafter.

Ajmere.

81. Owing to the short rainfall, very little could be done in the way of sowing. The seedlings also suffered from the severe frosts that occurred during the month of February.

Andamans.

82. No extensions to plantations were made during the year. The plantation at Goplakabanj is said to be doing very well. The teak planted in 1883 is reported to have nothing finer, for its age, in India or Burma.

Padouk seedlings were planted out on lines, 20 feet wide and 200 feet apart; but, although the plants were doing well, the ultimate success of the experiment seemed doubtful, it being feared that the canopy would close above the lines prematurely. Ten thousand plants of the Dani palm were planted out. Local bamboos being scarce, and of inferior value, the seed of *Dendrocalamus strictus*, *Cephalostachyum pergracile*, and of a few *Dendrocalamus Brandisii*, were obtained from Burma, and the resulting plants are doing well.

Berar.

83. In Berar, 50 acres were planted with mangoes, mohwas, and bamboos, 15 feet apart, at a cost of R883; and some 2,000 acres were sown broadcast with seed of sorts in various parts of the Province. The Conservator is not able to point to much visible success in connection with former broadcast-sowings, but is convinced that it will be apparent in the course of time, teak seed often not germinating for three or four seasons after sowing. The results must, of course, depend a very great deal on the condition of the soil, and the character of the forest. To sow seed on a hard inhospitable surface, unfit for its reception, would be simply throwing money away. The results of these operations will be awaited with much interest.

Madras.

84. In the Southern Circle, 239 acres were added during the year to the regular plantations. Of this, 75 acres were retransferred from the Jail Department, and the remainder represent extensions in South Arcot and Malabar (155 acres of *Casuarina* in the former district and 8 acres of Teak and Mahogany in the latter). In addition, 233 acres of blanks were filled up. An area of 687 acres was excluded from plantations, principally on account of transfers to Topes, in North Arcot, of areas hitherto erroneously included under plantations. The reclamation of sandy wastes in Tinnevelly was continued, 96 acres being sown with Palmyra nuts; and small cultural operations of an experimental character were executed in other districts.

In the Northern Circle, the Nellore plantation suffered grievous damage from a cyclone, and the whole southern part of it had to be abandoned.

Bombay.

85. The area of regular plantations was increased by 1,557 acres, of which 1,260 were in the Northern Circle (Satara principally); and cultural operations

were extended by 33,314 acres, of which 27,957 acres were also in the Northern Circle (18,010 acres in Satara). It is doubtful whether the so-called plantations should not, in great part, come under cultural operations, connected as they are with the restocking of blanks inside the Reserves. The following table illustrates the value and importance of the work done in the Bombay Presidency. It is a summary of the operations in one division (Ahmednagar):—

No.	Range.	By Hired Labour.				By Forest Guards.			
		Ploughing whole area.	Ploughing at 12 feet distances.	Pits at 5 feet distances.	Cost.	Area.	Pits.	Transplants.	Broadcast sowings.
		Acres.	Acres.	Acres.	R a. p.				Acres.
1	Nagar	12	...	85½	123 10 6	59	11,200	...	138
2	Parner	4½	...	...	57 2 3	48	16,000	1,000	830
3	Shrigonda	...	74½	...	40 11 0	416½	15,850	1,950	...
4	Karjat	21½	...	41½	44 14 0	10	9,200	2,675	335
5	Jamkhed	...	80½	48½	35 0 0	46½	11,000	2,200	2,393½
6	Shevgaon	...	...	24	10 0 0	490	10,600	2,200	193
7	Nevasa	8	...	...	49 12 0	10	5,000	...	200
8	Rahuri	1	...	...	8 4 0	11	7,200	...	2,750
9	Kopargaon	...	...	86¾	48 11 3	14	7,000	1,400	210
10	Sangamner	...	15	40	18 13 3	223	19,605	20	3,902
11	Akola	broadcast.		263½	24 12 0	95	24,600	5,025	16,036
	Total	41 7/10	169¾	589½	461 10 3	1,428	137,255	16,470	26,487½

In the Poona Division, the Forest Guards made 35,625 pits on the hill-sides, and sowed seeds in them (*Terminalia Chebula* to a large extent). Every Guard had to make 100 pits. By hired labour 1,999 acres were ploughed and sown, and 89,577 acres were pitted over and sown, at a total cost of R977.

In the Nasik Division, the results are said to be such that the plantations have already become coverts for game of all sorts.

Very little appears to have been done in the Southern Circle or in Sind.

(VI.)—Creeper-cutting, Clearances, Thinnings, &c.

Bengal.

86. Creepers were cut over 12,000 acres only, of which 7,000 in the Buxa Division. In Orissa, this work was profitable to the Department, inasmuch as the creepers were in demand for lashing rafts. But the progress made with this very important work was disappointing.

North-Western Provinces and Oudh.

87. In the Central Circle the progress made in cutting down creepers was unsatisfactory, only 13 square miles being operated over against 26 square miles in the previous year. The cost was also great—R51 per square mile. In Oudh nothing appears to have been done.

In the School Circle climbers were cut over 2,800 acres only at a cost of R152, or R35 per square mile. Inferior species were ringed over 1,313 acres. This work is principally done by the Forest School students.

Punjab.

88. No information is given, in this connection, by the Conservator of the Punjab.

Central Provinces.

89. Good work is reported to have been done in cutting down creepers; but the extent of the operations is not stated. Badly grown trees were cut back in Mandla, and in Hoshangabad; but here again no information is given as to the area actually covered by these works: it is believed, however, to have been unimportant.

Burma.

90. In the Tenasserim Circle, weeding operations, combined with light clearing overhead, were carried on in the West Salween plantations over an area of 837 acres. Similar operations were executed over 190 acres in the Attaran and Salween Divisions.

In the Pegu Circle, the older regular, and taungya, plantations situated in the Tharrawaddy, Prome and Toungoo Divisions were found to require, in nearly all instances, a further clearing to get rid of the soft-woods, and, in places, of the bamboos which, in consequence of fire-protection, had overtopped the teak and threatened to suppress it altogether. Much was done to remedy this state of things; but scarcity of labour, and the presence of dacoits, militated against sufficient being done in this respect in Tharrawaddy.

The regular plantations in the Bawbin Reserve (Tharrawaddy) were cleared of soft-woods and bamboos; and also the Kyetpyngan plantations (745 acres) and parts of the Magayi plantations (Rangoon) of overgrowth. Creepers were cut in the plantations of the Magayi Reserve and in parts of the Mokka block. Inferior species interfering with the growth of teak were also girdled, or felled, in parts of the latter.

Assam.

91. Climbers were cut over an area of some 8,000 acres of sâl forest.

Coorg.

92. The Deputy Conservator intimates that more attention is being paid to the work of cutting creepers; but only 820 acres appear to have been operated over.

Ajmere.

93. Two fresh areas of 10 acres each were cut over in the Mohwa Bir and Nagpahar blocks, with a view to improving the growth.

Berar.

94. Nothing appears to have been done under this head in Berar.

Madras.

95. Nothing under this head would appear to have been done in the Southern Circle. In the Northern Circle, creeper-cutting and improvement-thinnings were effected in various localities; but the extent of the operations is not clearly given.

Bombay.

96. In connection with this subject, all that can be gleaned from the Bombay reports is that thinnings were executed in the Karwar *Casuarina* plantation, and in the Singatgeri plantation in Kanara. We are told that these two thinnings realized a revenue of R2,210; but nothing is said as to the expenditure, or the areas worked over.

(VII.)—Communications and Buildings.

General.

97. The outlay under this head during the year is compared as follows with that of the previous year:—

Provinces.	Roads and Bridges.		Buildings.		Other works.		Total.	
	1886-87.	1885-86	1886 87.	1885 86.	1886-87.	1885-86	1886 87.	1885-86.
	R	R	R	R	R	R	R	R
Bengal	6,468	10,154	14,998	12,374	464	197	21,930	22,725
North-Western Provinces and Oudh	26,399	26,388	7,954	9,810	480	1,460	34,833	37,658
	13,028	11,843	12,102	13,960	3,213	1,182	28,343	26,985
	7,641	5,710	10,222	9,021	729	875	18,592	15,606
	47,068	43,941	30,278	32,791	4,422	3,517	81,768	80,249
Punjab	11,788	3,217	6,780	4,442	24	19	18,592	7,678
Central Provinces	1,875	1,749	2,338	2,113	569	312	4,782	4,174
Burma (Lower)	347	456	7,300	4,961	3,485	3,056	11,132	8,473
	...	2	454	5,187	58	37	512	5,226
	347	458	7,754	10,148	3,543	3,093	11,644	13,699
Assam	3,502	18,837	8,076	9,053	203	460	11,781	28,350
Coorg	1,661	279	1,514	1,622	...	...	3,175	1,901
Ajmere	28	22	193	55	282	256	503	383
Baluchistan	9	46	133	30	...	...	142	76
Total	72,746	98,703	72,064	72,628	9,507	7,854	1,54,317	1,59,185
Berar	8,112	10,115	2,565	1,808	658	705	11,335	12,628
Forest Surveys	...	...	410	597	...	...	410	597
Total Bengal Presidency	80,858	88,818	75,039	75,033	10,165	8,559	1,66,062	1,72,410
Madras	11,219	2,491	14,461	8,965	49	85	25,729	11,541
	9,524	6,988	15,443	14,071	1,023	159	25,990	21,218
	20,743	9,479	29,904	23,036	1,072	244	51,719	32,759
Bombay	598	783	5,255	763	7	130	5,860	1,676
	1,395	1,062	4,571	4,582	587	318	6,553	5,957
	...	...	783	90	12	600	795	690
	1,993	1,845	10,609	5,435	606	1,043	13,208	8,323
Grand Total	1,03,594	1,00,142	1,15,552	1,03,504	11,843	9,846	2,30,989	2,13,492

The totals for the Bengal Presidency during the previous five years have been as follows:—

	R
1881-82	1,88,027
1882-83	1,99,066
1883-84	1,84,998
1884-85	2,16,880
1885-86	1,72,410

These figures show an average of R1,92,276, and a total of R26,214 in favour of the year under review, of which the expenditure has been R6,318 less than that of 1885-86, and R50,818 less than that of 1884-85. Including Madras and Bombay, however, the expenditure increased during the year by R17,497.

The principal increases of expenditure occurred in Madras (R19,000), the Punjab (R11,000), Bombay (R5,000); and the more important reductions took place in Assam (R16,500) and Burma (R2,000).

8. The largest outlay was incurred in the North-Western Provinces and Oudh (R82,000); next in Madras (R52,000); then in Bengal (R22,000). In the Central Provinces, with its 20,000 square miles of Reserves, only R4,782 were expended, against R4,174 in the previous year, the average being equivalent to some 3½ annas per square mile of Reserves, against the following averages for other Provinces:—

	R	
Bengal	5	per square mile.
North-Western Provinces and Oudh	23	" "
Punjab	11	" "
Burma	3	" "
Assam	7	" "
Coorg	10	" "
Ajmere	3	" "
Berar	8	" "
Madras	12	" "
Bombay	1	" "

Excluding the Central Provinces, we have an average per square mile of about R7. In the case of the North-Western Provinces and Oudh, it is curious that each of the three Circles should spend in about the same proportion, *viz.*, R22 per square mile of Reserves. Great as this proportion is, it must be borne in mind that the works are verging on completion in Oudh, and have attained an exceptional degree of progress in the other two Circles. In the Central Provinces, on the other hand, little or nothing has been done: the officers have no proper shelter in the forests, and there are but few roads to encourage export from the Reserves, or to facilitate the necessary means of control on the part of the establishment. On the other hand, it should be mentioned that neither the demand, nor the character of the supply, nor the configuration of the ground necessitates here the large works undertaken in the North of India.

Bengal.

99. Very little was done as regards the construction of new roads, only 23 miles having been completed during the year. It is satisfactory to learn that the Singhbhum Forests were to be opened out at once, R10,000 having been sanctioned for that purpose. Half of the expenditure on houses went in repairs to existing buildings, which—not very economically—appear to have been generally left untouched during 1885-86. But, making every allowance for this, the expenditure on this account was very heavy. The new constructions embraced principally guards' huts, inspection-huts, depôt, range, and office quarters, and a few resthouses, and were pretty evenly distributed over the different Divisions.

North-Western Provinces and Oudh.

100. There was a reduction of R2,513 on account of buildings, and this expenditure should now rapidly decrease. On roads there was an increase of R3,127, and on other works an increase of R905. On the repair of roads alone were spent R41,000, of which R24,000 in the Central Circle, which has 679 miles of cart-road and 428 miles of bridle-road. It is not well understood how, in the circumstances, this enormous outlay in repairs is incurred in the Central Circle, after every allowance has been made for the hilly nature of the country. The Oudh Circle possessed 1,044 miles of road, costing in repairs R12,000; and the repair of 836 miles in the School Circle cost R5,000 only. New roads were constructed to the extent of 141 miles, at a cost of R5,300. New buildings cost R17,000, and repairs to existing houses R13,000.

The repair of buildings in Oudh was a very heavy item, R7,000, and required some explanation.

Punjab.

101. Over 80 miles of forest roads and paths, 2 large wooden bridges, 6 timber slides, 1 rest-house, 2 offices, 13 huts for establishment, a small timber-shed, and a water-mill were constructed during the year. It is not mentioned what sum was expended on repairs, and it would have been useful to have given the mileage of existing communications (cart-roads, bridle-roads, paths) and a list of the buildings, with the additions made during the year. Consequent on this good progress, the expenditure rose considerably under this head.

Central Provinces.

102. Of the R4,782 expended during the year under this head, R2,534 went in repairs of existing roads and the accommodation of subordinates.

No clear statement is given of the new work done during the year, which would appear, however, to have been very trifling. The mileage of existing departmental roads could have been usefully given.

Burma.

103. For the purpose of police-patrol, straight paths, 10 feet wide, were cut and cleared through the Thindawyo, Satpok, Sitkwin, and Chaungzauk fuel Reserves in Tharrawaddy. A new bungalow, to replace the one burnt by dacoits, was built at Myitkyo at a cost of R2,997. Ten other rest-houses, and a bungalow, were destroyed by dacoits; and, owing to the disturbed state of the country, it was not thought advisable to replace them. The guard-houses at the timber depôt in Rangoon were rebuilt at a cost of R1,060; and repairs and alterations to existing buildings involved an expenditure of some R3,000. The working expenses of the steam-launch *Attaran* came to R3,252.

Assam.

104. R3,502 were expended on roads, against R18,837 in the previous year. No new work of importance was done, owing to the orders for reducing expenditure. Nearly the whole of the above was, therefore, spent in repairs to existing roads. As the mileage is not given in any case, it is impossible to compare this expenditure. A considerable sum, R8,076, was spent on buildings, and almost wholly so, it would appear, on repairs, although the items are too mixed up in the case of the Garo Hills Division for us to be able to eliminate the one from the other. In connection with so heavy an expenditure on repairs, an explanation should have been given.

Coorg.

105. R1,661 were expended on roads against R279 in the previous year No clear statement is given of the work done, the mileage not being shown in all cases; but we gather that the new constructions of the year extended over a distance of some 13 miles only, and that even here the work remained incomplete. The principal expenditure on buildings was connected with the completion of the Kutampalle bungalow.

Berar.

106. On roads R8,112 were expended against R10,115 in the previous year. Almost all this expenditure was incurred on the repair of roads in the Melghât injured by an exceptional fall of rain. Under Buildings, the principal work was the construction of the Pohora rest-house in Amraoti for R1,605.

Madras.

107. In the Northern Circle numerous roads of very short length, and aggregating something under 50 miles, were constructed at a cost of over R8,000. In the Southern Circle 62½ miles of road and inspection-paths were made at a cost of R5,795. In both Circles considerable progress was made in the construction of rest-houses.

Bombay.

108. There are several reasons why no great works by the Forest Department have to be recorded, under this head, for the Bombay Presidency. In the first place, the country was opened out in all directions by roads before the Department sprang into existence; then again cart tracks suited to the purposes in view traverse the forests in all directions. Further, one-half of the surplus revenue from forests is credited to the Provincial Services budget, with the result that many miles of road, of use to the Forest Department, are made in the Public Works Department. In the Northern Circle, only R598 were so expended during the year, against R783 in the previous year, and in the Southern Circle R1,395 against R1,062 in 1885-86. The Northern Circle, however, spent R5,255 in buildings during the year, against R763 in the previous year. This expenditure was to a great extent in connection with the housing of forest guards and forest rangers. In regard to Sind, we are told that there were no funds available (except for repairs of an urgent nature) in connection with either roads or buildings. In the Southern Circle eight watch-houses, two rest-houses, and four guard-houses were constructed.

(VIII.)—Demarcation and Improvement of Forests.

General.

109. The expenditure during the year under these heads was as follows :—

Provinces	Demarcation.		Compensation for Land and Rights.		Surveys and Working Plans		Plantations		Protection from Fire.		Other Works		Total.	
	1886-87.	1885-86	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87	1885-86	1886-87	1885-86.	1886-87.	1885-86
	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Bengal	8,857	9,346	1,414	1,991	1,284	1,466	7,460	7,577	14,212	14,871	706	925	33,933	36,176
N.-W. P. & Oudh.	4,993	3,123		..	1,321	1,407	2,890	2,797	18,127	16,785	1,379	498	28,710	24,610
	3,673	3,453	550	34	1,932	1,053	3,996	5,353	13,660	10,825	4,458	4,328	28,269	25,046
	549	979	262	300	1,196	2,665	2,197	3,425	8,112	7,878	3,484	2,534	15,800	17,781
	9,215	7,555	812	334	4,449	5,125	9,083	11,575	39,899	35,488	9,321	7,360	72,779	67,437
Punjab	15,070	28,776	24	593	583	1,864	38,981	30,089	1,249	1,186	2,448	2,371	57,677	64,870
Central Provs	10,236	11,825	.	61	4,471	1,449	497	247	19,433	18,000	3,173	2,760	37,810	34,142
Burma (Lower)	789	4,212		1,878	1,001	5,149	20,606	27,272	9,506	11,114	242	326	32,144	49,951
	754	1,071	25		47	96	5,878	3,754	4,078	4,941	158	86	10,940	9,948
	1,543	5,283	25	1,878	1,048	5,245	26,484	31,026	13,584	16,055	400	412	43,084	59,899
Assam	5,821	9,018	1,452	350	8,620	6,834	5,388	6,499	9,056	8,846	9,954	7,955	40,291	39,502
Coorg	1,292	1,011	19	..	1,384	2,988	8,988	6,240	2,989	2,647	59	54	14,731	12,990
Ajmere	22	50	...	..	3		1,490	1,059	704	213	3,620	1,146	5,839	2,468
Baluchistan	752	408	...	...	45	19	1,399	1,456	...	.	394	169	2,590	2,052
For. Sur. (Impl.)	...				5,576	3,085				..			5,576	3,085
Total	52,808	73,272	3,968	4,857	27,468	12,926	98,870	95,759	1,01,126	97,356	30,075	23,152	3,14,311	3,22,621
Berar	715	231	14	123	328		4,150	1,520	5,519	5,840	283	25	11,00	7,739
Forest Surveys (Berar).					7,161	6,463			..				7,16	6,463
Total Bengal Presidency	53,523	73,503	3,982	6,330	34,952	34,338	1,03,020	97,279	1,06,645	1,03,196	30,358	23,177	3,32,458	3,36,823
Madras	19,545	13,060	2,954	1,505	800	39	23,890	24,816	12,133	10,420	4,252	2,242	63,574	52,082
	8,761	9,728	19,829	1,081	2,727	1,068	40,831	38,428	16,823	15,047	23,727	23,060	1,12,698	88,412
	28,306	22,788	22,783	2,586	3,527	1,107	64,721	63,244	28,956	25,467	27,979	25,302	1,76,272	1,40,494
Bombay	33,763	39,208	24,486	15,039	40,244	2,335	7,461	6,186	470	1,457	6,950	1,577	1,13,374	65,802
	16,199	11,136			28,616	191	5,501	7,122	870	1,651	1	223	51,187	20,393
	4,900	4,425	36	...	3,207	2,977	5,707	4,917	8	..	2,456	3,270	16,014	15,389
	54,862	54,769	24,522	15,039	72,067	5,503	18,669	18,225	1,348	3,108	9,107	5,070	1,80,575	1,01,714
Grand Total	1,36,691	1,15,060	51,287	22,955	1,10,546	40,948	1,86,410	1,78,748	1,36,949	1,31,771	67,444	53,549	6,89,327	5,79,031

110. The expenditure on demarcation and improvement of forests in the Bengal Presidency during the past five years has been as follows:—

	R
1882-83	3,27,704
1883-84	3,53,629
1884-85	4,27,715
1885-86	3,36,823
1886-87	3,32,480
Average	3,55,670

CHAPTER IV.

WORKING AND YIELD.

Bengal.

111. The outturn of the several classes of forests, arranged according to the agency employed for the extraction of produce, was as follows:—

Class of Forests.	Outturn, in cubic feet.		Bamboos.	Minor Forest Produce.
	Timber.	Fuel.		
Reserved Forests.			No.	Mds.
By Government Agency	119,288	304,127	722,384	11
„ Purchasers	6,358,606	10,317,939	5,267,381	4,145,229
Free Grants	1,483	11,007	500	5,140
Total	6,479,377	10,633,073	5,990,265	4,150,380
Protected Forests.				
By Government Agency	16	...	...	1
„ Purchasers	343,837	6,691,832	553,840	845,676
Free Grants	920	...	8,480	27,300
Total	344,773	6,691,832	562,320	872,977
Unclassed State Forests.				
By Government Agency	6,784	128	1,940	...
„ Purchasers	239,473	89,653	11,419,439	177,960
Free Grants	...	...	...	...
Total	246,257	89,781	11,421,379	177,960
Grand Total in 1886-87	7,070,407	17,414,686	17,973,964	5,201,317
„ 1885-86	6,585,516	18,759,146	16,664,460	5,212,452
Increase or Decrease in 1886-87	+ 484,891	—1,344,460	+1,309,504	— 11,135

There was a small increase in the outturn of timber, and a considerable one in that of bamboos. In connection with fuel, there was a very great decrease in the export from the Reserved forests on the part of purchasers, amounting to nearly 3 million cubic feet, and this is attributed to the doubling of the rates for Sundri wood in the Sunderbuns Division, which was effected with a view to sparing the saplings of that species for timber.

112. The average outturn of wood per square mile, as compared with the results of the previous year, was as follows:—

Class of Forests.	Area, in square miles.	Total outturn of wood, in cubic feet.	Outturn, in cubic feet, per square mile.
Reserved	4,986	17,112,450	3,432
Protected	2,195	7,036,605	3,206
Unclassed State	4,033	336,038	83
In 1886-87	11,214	24,485,093	2,183
In 1885-86	11,224	25,344,662	2,258
Decrease in 1886-87	10	859,569	75

The increase in timber occurred principally in the Buxa Division, to meet the railway requirements in sleepers. The increase in the outturn of bamboos took place in the Chittagong Forests.

North-Western Provinces and Oudh.

113. According to the statements submitted, the forests yielded the following material during the year under review :—

Circle.	Outturn, in cubic feet.		Bamboos.
	Timber.	Firewood and Charcoal.	
			Scores.
Central	873,868	1,586,221	1,064,055
Oudh	3,536,660	2,260,918	...
School	727,454	2,717,567	124,627
Total in 1886-87	5,137,982	6,564,706	1,188,682
„ „ 1885-86	5,220,980	4,126,518	971,855
Increase or Decrease in 1886-87	—82,998	+2,438,188	+216,827

The outturn in timber decreased by 83,000 cubic feet, and this is attributed, among other causes, to the closing of the large sleeper works that have been in progress during the last few years in Oudh. The increased outturn in fuel, again, is, to the extent of 1,954,280 cubic feet, only apparent, being due to the circumstance that the firewood granted to villagers in 1885-86 in the School Circle was not shown in the returns for that year.

114. The following abstract indicates the agency under which the outturn was effected, and the character of the corresponding forest operations :—

Description of outturn.	In cubic feet (000's) omitted.						
	Total outturn.	Class of forest operations.			By whom removed.		
		Selection fellings.	Clearances	Thinnings.	Government agency.	Purchasers.	Non-purchasers.
Central Circle.							
Timber	874,	514,	353,	7,	77,	672,	125,
Fuel	1,586,	167,	1,642,	77,	217,	1,279,	90,
Minor produce (in rupees)	1,81,976	...	..	...	5,462	1,74,799	1,715
Oudh Circle.							
Timber	3,536,	209,	3,190,	137,	359,	380,	2,797,
Fuel	2,261,	...	2,094,	167,	167,	979,	1,115,
Minor produce (in rupees)	1,44,739	...	...	...	884	1,03 982	39,873
School Circle.							
Timber	727,	481,	114,	132,	289,	328,	82,
Fuel	2,717,	149,	2,410,	158,	190,	558,	1,969,
Minor produce (in rupees)	65,440	...	...	...	21	57,097,	8,322
Grand Total.							
Timber	5,137,	1,204,	3,657,	276,	726,	1,379,	2,994,
Fuel	6,564,	316,	6,146,	402,	574,	2 817	3,173,
Minor produce (in rupees)	3,92,155	...	...	...	6,367	3,35,878	49,910

Minor produce here includes bamboos. The Conservator of the Central Circle has not included in his figures the dry fuel, grazing, and minor produce

supplied to non-purchasers, other than free-grantees; but he estimates these quantities at 1,400,000 cubic feet of fuel, having a value of R14,653, and at R58,535 of minor produce. It will thus be seen that 65 per cent. of the outturn was given away free of payment to neighbouring villagers, and this exclusive of minor produce similarly disposed of, and of which the value has been estimated at R1,08,445.

Punjab.

115. The following trees were felled by Government agency:—

Description of Tree.	Number.
Deodar	7,606
Oak	1,527
Pines	1,510
Boxwood	882
Other kinds	279
Total in 1886-87	11,804
" 1885-86	7,540
Increase in 1886-87	4,264

116. The outturn of timber, fuel, bamboos and minor produce by the several agencies was as follows:—

Description of Outturn.	By Government agency.	By Purchasers.	By Non-Purchasers.	Total.
	Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
Timber	956,608	292,098	1,209,062	2,460,768
Fuel	2,327,048	7,649,272	10,215,146	20,191,466
Total in 1886-87	3,286,656	7,941,370	11,424,208	22,652,234
" 1885-86	2,881,296	6,722,491	424,496	10,028,283
Increase in 1886-87	405,360	1,218,879	10,999,712	12,623,951
Bamboos (number)	726,177	11,514	8,325	746,016
Do. in 1885-86	824,151	28,845	23,775	876,771
Decrease in 1886-87	97,974	17,331	15,450	130,755

Inclusive of bamboos, the value of minor produce exported was R1,76,341, of which R11,042 represents free gifts.

Thus more than half of the outturn of the forests was given away free of payment. The large increase in this respect over the previous year is for the most part only apparent, as 102 lakhs of cubic feet of firewood were omitted from the returns of 1885-86. The large difference in the total outturn is affected by the same cause.

The demand for timber was above the average, and there was a large

increase in the amount of firewood removed from the Lahore Division, principally for railway consumption.

Central Provinces.

117. The yield of the forests is shown in the following statement :—

Description of Produce.	By Departmental Agency.			By Purchasers.			Total.		
	1st class Reserves.	2nd class Reserves.	Total.	1st class Reserves.	2nd class Reserves.	Total.	1st class Reserves.	2nd class Reserves.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Timber . . .	1,654	777	2,431	10,060	18,584	28,644	11,714	19,361	31,075
Firewood and Charcoal	321	196	517	13,033	65,017	78,050	13,354	65,213	78,567
Bamboos . . .	291	...	291	8,875	4,576	13,451	9,166	4,576	13,742
Grass . . .	442	23	465	5,935	13,832	19,767	6,377	13,855	20,232
Other minor produce .	157	316	473	812	5,294	6,106	969	5,610	6,579
Total in 1886-87 .	2,865	1,312	4,177	38,715	107,303	146,018	41,580	108,615	150,195
„ 1885-86 .	1,908	778	2,686	27,002	127,218	154,220	28,910	127,996	156,906
Increase or Decrease in 1886-87 . .	+ 957	+ 534	+1,491	+11,713	—19,915	—8,202	+12,670	—19,381	—6,711

Much of the produce is removed under annual or commutation licenses, and as it has been found impossible to estimate this quantity, it follows that the above statement does not represent the whole of the outturn, and is, therefore, incomplete. The ascertainable outturn was less than that of the previous year by 6,711 cubic feet, and the decrease in the sale of timber and fuel to extractors has now been noticed for three successive years. Two causes have been at work in this connection. The first of these is the great impulse given to the reckless and ruinous cutting of timber in zemindari and malguzari forests by the construction of the Bengal-Nagpore Railway, and to which impulse force has been added by the new settlement operations, the malguzars and zamindars being possessed with a vague idea that they ought to take advantage of the opportunity to make what they can out of the forests on their lands. Another cause militating against the Department in the Central Provinces has been the lamentable weakness and inefficiency of the establishments. Although this evil has been to a great extent remedied since, it will take some time to complete the requirements of the Provinces, and, in the meantime, a very marked improvement must not be looked forward to.

Burma.

118. The following girdling operations took place during the year under review :—

Circle.	Teak.			Other trees outside Reserves.	Total.
	Inside Reserves.	Outside Reserves.	Total.		
	No.	No.	No.	No.	No.
Pegu	740	15,708	16,448	...	16,448
Tenasserim	470	556	1,026	...	1,026
Total in 1886-87 .	1,210	16,264	17,474	...	17,474
„ 1885-86 .	3,636	14,238	17,874	550	18,424
Increase or Decrease in 1886-87 .	—2,426	+2,026	—400	—550	—950

119. The yield of the forests may be summarized as follows :—

	Outturn, in Tons.		
	Teak.	Other kinds.	Total.
By Government agency	43,133	3,236	46,369
By Purchasers and under Trade Permits	392	48,656	49,048
Under Free Permits	198	529	727
By Lessees of Forests	1,344	330	1,674
Total in 1886-87	45,067	52,751	97,818
„ 1885-86	35,443	47,172	82,615
Increase in 1886-87	9,624	5,579	15,203

The total value of minor produce extracted was R1,25,154, of which R2,092 only pertained to the Tenasserim Circle. Of bamboos, the export amounted to 1,283,700, of which only 1,000 from the Tenasserim Circle. Cutch alone fetched R1,18,615. The very remarkable increase in this revenue is stated to be due to the immigration of cutch-boilers from Upper Burma, and to the high market rate ruling for this article, which exceeded that of former years by nearly 50 per cent.

There was an increase of 5,122 tons in the quantity of teak timber extracted in the Tenasserim Circle. The quantity of timber of other kinds taken out by Government contractors continues to decrease, but there was a large increase in the timber of unreserved kinds removed under trade permits. In the Pegu Circle, 29,043 tons of teak were extracted, against 24,530 tons in the previous year, and the quantity of other reserved timber removed was also much greater, although that of unreserved was much less.

120. The imports of foreign timber into British Burma, as exhibited in the following table, show a partial revival of the Moulmein trade, but a proportionate falling off in the Rangoon trade with Upper Burma. The former was entirely due to the arrival of large quantities of timber from Zimmé by the Salween river, while the disturbed state of Upper Burma necessarily influenced the latter.

Year.	Quantity, in Tons		
	Pegu Circle.	Tenasserim Circle	Total.
1886-87	43,600	140,948	184,548
1885-86	73,346	117,099	190,445
Increase or Decrease in 1886-87	—29,746	+23,849	—5,897

121. The exports were as follows :—

Year.	From Moulmein.		From Rangoon.		Total.		
	Tons.	Value.	Tons.	Value	Tons	Value.	Average value per ton
		R		R		R	R
1886-87	96,600	62,34,972	46,734	34,66,561	143,334	97,01,533	67·7
1885-86	105,240	83,09,160	63,368	53,72,330	168,608	1,36,81,490	81·1
Decrease in 1886-87	8,640	20,74,188	16,634	19,05 769	25 274	39,79,957	13 4

The depression in the timber trade with Europe continued throughout the year.

The work of the Forest Department was affected by the disturbed state of various parts of the Province. In some cases active work in the forests was stopped, or had to be carried on under adverse conditions.

Assam.

122. The outturn of the forests in timber, fuel, and bamboos was as follows:—

	Timber (selection fellings).	Fuel.	Bamboos.
Reserved Forest.	Cubic feet.	Cubic feet.	No.
By Government agency	637	...	5,204
„ Purchasers	678,523	26,245	858,504
Free Grants	21,530	65,961	81,550
TOTAL	700,690	92,206	945,258
Protected Forests.			
By Government agency	...	...	...
„ Purchasers	45,847	140	100,250
Free Grants	4,160	47,400	463,320
TOTAL	50,007	47,540	563,570
Unclassed State Forests.			
By Government agency	29,804	8,200	...
„ Purchasers	426,446	132,532	154,409
Free Grants	351,633	178,434	199,793
TOTAL	807,883	319,166	354,202
GRAND TOTAL IN 1886-87	1,558,580	458,912	1,863,030
„ 1885-86	1,198,974	419,666	2,405,384
Increase or Decrease in 1886-87	+359,606	+39,246	—542,354

The considerable increase in the outturn of timber is principally due to the extended operations of purchasers in Reserved forests, the export on account of which rose from 349,000 cubic feet to 678,000 cubic feet. Non-Purchasers obtained 668,000 cubic feet of timber and fuel free, against 779,000 cubic feet in the previous year, and 744,000 bamboos, against 1,400,000 in 1885-86. This decrease in the quantity of material given away without return is a satisfactory feature of the year's work, although it must be recorded with regret that the additions to the area of Reserved forests during the year were not suffered to be without proportionately heavy sacrifices attaching in the above connection both to that class of forests and the Protected forests. This is shown in the following statement:—

CLASS OF FOREST.	QUANTITIES REMOVED FREE OF PAYMENT.					
	Timber.		Fuel.		Bamboos.	
	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.
	Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.	No.	No.
Reserved	21,000	20,000	66,000	10,000	81,000	1,700
Protected	4,000	18,000	47,000	...	463,000	...
Unclassed	352,000	422,000	178,000	309,000	200,000	1,406,500
TOTAL	377,000	460,000	291,000	319,000	744,000	1,408,200

There was a distinct recovery during the year in the export trade of Sâl timber with Bengal, and conditions became generally more favourable for Assam.

123. The outturn of minor forest produce is exhibited as follows :—

	Rubber.	Canes.	Grass.
Reserved Forests—	Maunds.	Bundles.	Bundles.
By Government agency	4	12,341	...
„ Purchasers		53,025	185,009
Free Grants	...	273	9,750
TOTAL	4	65,639	194,759
Protected Forests.			
By Government agency	...	...	...
„ Purchasers	...	2,043	111,846
Free Grants	...	10,360	57,700
TOTAL	...	12,403	169,546
Unclassed State Forests.			
By Government agency	...	...	...
„ Purchasers	4	462,321	12,137
Free Grants	...	24,597	6,840
TOTAL	4	486,918	18,977
Grand Total in 1886-87	8	564,960	383,282
„ 1885-86	15	464,422	2,700
Increase or Decrease in 1886-87	—7.	+100,538	+380,582

The value of the rubber-mahals for the year was R34,988, against R31,178 in the previous year. The yield in India-rubber by the Assam forests was ascertained, by deduction from exports, to have been only 2,227 maunds, as compared with 5,675 maunds in the previous year. This falling off is attributed to the severe tapping which the trees have undergone during the last few years in the Naga hills and North Cachar.

Coorg.

124. The number of trees felled in Reserves by Government agency compares with the operations of the previous year as follows :—

	Teak.	Other trees.	Total.
	No.	No.	No.
1886-87	957	1,337	2,294
1885-86	874	1,015	1,889
Increase in 1886-87	+83	+322	+405

The number of trees removed from Unreserved forests was small. The amount of free grants given from all classes of forests was very moderate.

125. The following is an abstract of the Sandalwood operations for the previous four years and including the year under review :—

Year.	Quantity brought to depôts.	Quantity sold.	Amount realized.	Average per ton.
	Tons.	Tons.	R	R
1882-83	117½	192¼	77,407	403
1883-84	74¼	36¼	10,908	301
1884-85	72¼	118¾	35,650	300
1885-86	80½	118½	27,954	236
1886-87	78½	83	25,935	312

The number of sandal trees cut during the year was 4,320, producing 78½ tons, or an average of 1 ton to every 55 trees, against 1 ton to every 30 trees in the previous three years. In consequence of this, the estimated production for the next 16 years has been reduced to 60 tons a year.

The total number of bamboos removed by purchasers was 173,000, against 197,000 in the previous year.

The new leases were given for cardamom "malés" during the year, and will lead to an increase of revenue.

Andamans.

126. No girdling operations were undertaken, there having been an ample supply of dead trees on hand. Padouk trees to the number of 1,466, and 2,692 trees of other species, were felled by Government agency, and yielded 2,568 and 4,605 logs, respectively. The amount of timber removed by purchasers is, for the present, small, and the quantity removed for the use of the settlement need not, as yet, be separately dealt with.

Berar.

127. The following table shows the outturn of timber and fuel removed by purchasers :—

Class of Forests.	Outturn, in cubic feet.		
	Timber.	Firewood and charcoal.	Total.
Reserved forests	*30,673	35,522	66,195
Village "	30,883	96,399	†127,282
Unclassed State Forests	287,376	254,854	542,230
Total in 1886-87	348,932	386,775	735,707
" 1885-86	280,778	313,023	593,801
Increase in 1886-87	68,154	73,752	141,906

* Besides 227 "pieces."

† In addition, timber and firewood were sold "by auction" in the Amraoti and Basim Districts, or the dues were farmed out to contractors, making it impossible to determine the exact quantities removed in this manner.

In the Bairagarh Reserve, 3,472 trees were felled, against 642 in the previous year, and there was everywhere an increase in the quantity of timber extracted.

128. The outturn of minor forest produce is exhibited as follows:—

Class of Forests	Bamboos.	Grass.	Minor Produce.
	No.	Tons.	Tons.
Reserved Forests	1,215,561	7,379	160
Village "	54,180	3,393	215
Unclassed State Forests	853,000	3,960	1,175
Total in 1886-87	2,122,741	14,732	1,550
" 1885-86	2,715,301	8,641	5,205
Increase or Decrease in 1886-87	—592,560	+6,091	—3,655

There was a large decrease in the outturn of bamboos from the Unclassed forests, and this is attributed to the unseasonable weather, and to the paucity of available carriage.

129. The amount realized from cattle-grazing was as follows:—

Class of Forests.	Cattle.	Grazing value.
	No.	R
Reserved Forests	60,654	11,398
Village "	862,938	76,726
Unclassed State Forests	153,689	9,104
Total in 1886-87	1,077,281	97,228
" 1885-86	889,897	77,901
Increase in 1886-87	187,384	19,327

Some 4,000 cattle were admitted into the Reserved forests in excess of the number allowed in the previous year under the system of "light grazing," and 182,821 additional cattle grazed in the village forests, or "grazing lands." This excess is not explained, and it is not known whether it was real, or merely due to improved methods of check.

Madras.

130. It is not possible to review the work done under this head in Madras: The figures given in the annual forms do not correspond with those given in the body of the report, and the subject of yield generally is not treated in a sufficiently comprehensive form. Observations to the same effect had to be made in the Inspector-General's review for 1885-86.

Bombay.

131. In Bombay the outturn is variously given in cubic feet, cartloads, khandis, tons, and divers measures, and is nowhere shown in a comprehensive manner.

CHAPTER V

Financial Results.

General.

132. The receipts and surplus of the various Provinces during the year under review, arranged according to the total amount of revenue, are as follows :—

No	Provinces.	Revenue.	Surplus.	Deficit.	Proportion of Surplus to gross Revenue.
		R.	R	R	Per cent.
1	Bombay	30,32,676	10,79,766	...	35
2	Burma (Lower)	19,98,667	9,22,837	...	46
3	North-Western Provinces & Oudh	15,73,556	6,53,976	...	42
4	Madras	12,46,911	93,789	...	8
5	Punjab	11,27,277	4,10,767	...	36
6	Central Provinces	9,57,410	4,58,117	...	48
7	Bengal	6,53,634	2,30,853	...	35
8	Berar	3,26,261	1,54,557	..	47
9	Assam	2,12,011	...	276	...
10	Burma (Upper)	1,08,074	1,05,886	...	98
11	Coorg	99,291	25,203	...	25
12	Andamans	31,870	6,101	...	19
13	Baluchistan	14,081	...	3,755	...
14	Ajmere	11,274	...	9,470	...
15	Imperial	4,186	...	82,113	...
16	Forest Surveys (Berar)	651	...	44,821	...
17	Forest School	415	...	30,416	...
18	Forest Surveys (Imperial)	241	...	28,107	...
	Total	1,13,98,486	39,42,894	...	35

The gross revenue increased during the year from 112 lakhs to close on 114 lakhs, which is the highest figure yet arrived at by the Department. On the other hand, the surplus was less than that of the previous year by 2 lakhs.

133. The surplus revenue for the last five years is shown in the following table :—

Year.	British Territories.				Berar.	Grand Total.
	Bengal Presidency.	Madras.	Bombay.	Total		
	R.	R	R.	R	R	R
1882-83	26,42,642	2,61,090	8,11,583	37,15,315	1,36,960	38,52,275
1883-84	29,05,697	1,66,971	9,38,928	40,11,596	1,36,396	41,47,992
1884-85	17,86,464	2,70,411	9,96,119	30,52,994	1,10,666	31,63,660
1885-86	22,24,991	2,60,678	15,26,825	40,12,494	1,18,300	41,30,794
1886-87	26,59,603	93,789	10,79,766	38,33,158	1,09,736	39,42,894

Bengal.

134. The following table shows the financial results of the year under review as compared with those of 1885-86 :—

Year.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.	Revenue per square mile of Forests.	
					Gross.	Net.
	R	R	R	Per cent.	R	R
1886-87	6,53,634	4,22,781	2,30,853	35	58	21
1885-86	5,97,432	3,70,399	2,27,033	38	53	20
Increase or Decrease in 1886-87	+56,202	+52,382	+3,820	−3	+5	+1

The receipts would have been much greater but for the wholesale ejection of sleepers by the Northern Bengal Railway. The charges also include the extraordinary item of R33,282 as part cost of the new steamer *Seal*, constructed for the Sunderbuns Division.

135. The distribution of receipts and charges is as follows :—

	Departmental Operations.	Other Revenue.	Formation, Protection, and Improvement of Forests.	Total.
	R	R	R	R
Receipts	1,09,760	5,43,874		6,53,634
Charges	85,408	1,53,044	1,84,329	4,22,781
Surplus	24,352	3,90,830	...	2,30,853
Deficit	...	...	1,84,329	...

North-Western Provinces and Oudh.

136. The financial results of the year were as follows :—

Circle.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
Central	5,78,023	2,77,117	3,00,906	52
Oudh	6,58,674	3,75,120	2,83,554	43
School	3,36,859	2,67,343	69,516	21
Total in 1886-87	15,73,556	9,19,580	6,53,976	42
" " 1885-86	14,61,495	9,74,519	4,86,976	33
Increase or Decrease in 1886-87	+1,12,061	−54,939	+1,67,000	+9

The results are the best yet obtained in these Provinces. On the other hand, stocks undisposed of, or not credited in the previous year, have tended to swell the surplus.

Punjab.

137. The financial results compare with those of the previous year as follows:—

Year	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
1886-87	11,27,277	7,16,510	4,10,767	36
1885-86	8,50,419	6,75,483	1,74,936	21
Increase in 1886-87	2,76,858	41,027	2,35,831	15

The results of the year are the highest on record for the Punjab. This very satisfactory state of things is due to extended timber works in Chamba, Bashahr, and Pangi, to the disposal of existing stock accumulations, and to increased sales of fuel to the Railway Department.

Central Provinces.

138. The results of the year's operations were far from satisfactory, as shown by the figures below. The gross revenue diminished again, and the charges increased. The cause of this state of things has, to a great extent, been already explained under "Yield and Working":—

Year	Receipts.	Charges	Surplus	Proportion of Surplus to gross Revenue
	R	R	R	Per cent.
1886-87	9,57,410	4,99,293	4,58,117	48
1885-86	10,36,894	4,45,432	5,91,462	57
Increase or Decrease in 1886-87	—79,484	+53,861	—1,33,345	—9

Lower Burma.

139. The financial results of the year, as exhibited in the following table, show a decrease of some R28,000 in the gross receipts, but also a reduction of R75,000 in the expenditure, the surplus being better than that of the year before by R47,000. The unsettled state of the country affected the revenues, while the teak markets, both in Europe and in India, remained depressed throughout the year:—

Circle	Receipts	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
Pegu	14,97,355	6,55,175	8,42,180	56
Tenasserim	5,01,312	4,20,655	80,657	16
Total in 1886-87	19,98,667	10,75,830	9,22,837	46
,, 1885-86	20,23,859	11,50,952	8,72,907	43
Increase or Decrease in 1886-87	—25,192	—75,122	+49,930	+3

Assam.

140. The financial results compare as follows with those of 1885-86 :—

Year	Receipts	Charges	Deficit
	R	R	R
1886-87	2,12,011	2,12,287	276
1885-86	1,96,656	2,11,494	14,838
Increase or Decrease in 1886-87	+15,355	+793	—14,562

The receipts were the largest obtained since 1882-83. The bulk of the revenue, namely, 86 per cent. of it, is made up of "produce removed by consumers and purchasers," and the demand is, in this connection, dependent to a great extent on the neighbouring districts of Bengal, and on the requirements of an increased population in the Assam valley itself—requirements which are, however, in a great measure met at present by the liberality of Government in the matter of its forest produce, more than half of which would appear to be given away free of payment. The financial position of the Assam Forest Department is, therefore, still a very uncertain one, the development of the revenues depending on factors outside the control of the Department.

Coorg.

141. The financial results, as compared with those of the previous year, were as follows :—

Year	Receipts	Charges	Surplus.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
1886-87	99,291	74,088	25,203	25
1885-86	89,386	65,690	23,696	27
Increase or Decrease in 1886-87	+ 9,905	+ 8,398	+ 1,507	—2

Timber operations, the profits from which were not secured during the year, tended to augment the expenditure and to reduce the surplus. Short collections of sandalwood also contributed to decrease the revenue.

Ajmere.

142. The financial results of the year under review were, as compared with those of the previous year, as follows :—

Year.	Receipts	Charges.	Deficit
	R	R	R
1886-87	11,274	20,744	9,470
1885-86	9,697	16,469	6,772
Increase in 1886-87	1,577	4,275	2,698

The deficit increased from R6,772 to R9,470. This was owing to the extensive works executed during the year in connection with the fencing of new blocks.

Baluchistan.

143. The financial results for the last three years compare as follows:—

Year.	Receipts.	Charges.	Deficit.
	R	R	R
1884-85	6,089	13,266	7,177
1885-86	14,962	15,799	837
1886-87	14,081	17,836	3,755

The deficit increased considerably during the year, while the receipts decreased. The increase in expenditure was chiefly due to a greater sum being spent on the purchase of fuel for Quetta, on increased establishments, and extended works in connection with the improvement of the forests.

Andamans.

144. The cash transactions of the year showed a surplus of R6,101; and a valuable cargo of timber was, in addition, lying stored at Shoal Bay. The surplus on local transactions amounted to R7,320.

Berar.

145. The financial results of the year's working were as follows:—

Class of Forests.	Receipts.	Charges.	Surplus.	Deficit.	Proportion of Surplus to gross Revenue.
	R	R	R	R	Per cent.
Reserved Forests	57,223	64,694	...	7,471	...
Village "	1,68,776	51,376	1,17,400	...	...
Unclassed State Forests	1,00,262	55,634	44,628	...	...
Total in 1886-87	3,26,261	1,71,704	1,54,557	...	47
" " 1885-86	3,19,851	1,59,242	1,60,609	...	50
Increase or Decrease in 1886-87	+6,410	+12,462	—6,052	...	—3

The extra expenditure is largely made up of officers' salaries. The revenue shows a steady annual increase, and may be expected to continue doing so.

Madras.

146. The following table shows the financial results of the year:—

Circle.	Receipts.	Charges.	Surplus or Deficit.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
Northern	5,52,248	4,34,966	+ 1,17,282	...
Southern	6,94,663	7,18,156	— 23,493	...
Total in 1886-87	12,46,911	11,53,122	+ 93,789	8
" " 1885-86	11,98,650	9,37,972	+ 2,60,678	22
Increase or Decrease in 1886-87	+ 48,261	+ 2,15,150	— 1,66,889	— 14

In the Northern Circle the revenue was very slightly added to, while the expenditure increased by 8 per cent. And, again, in the Southern Circle the revenues increased only by 6 per cent., while the charges increased by 35 per cent. Although large sums were devoted during the year to such non-recurring items as the constitution of Reserves, the proportion of expenditure to revenue in Madras exceeds that of any other Province by a very great deal—a position which seems to demand consideration.

Bombay.

147. The financial results, as exhibited in the following table, show a general decrease in the proportion of the surplus to the gross receipts of 9 per cent. This is accounted for by a low demand and bad prices. It is possible that the revenues may improve, but there can be no doubt that its development is here, impeded by rights of user, and, above all, by concessions on an extremely liberal scale extended by Government to the people at large. The value of these concessions in one Division alone is estimated at R2,55,000, and the quantity of produce extracted in this way in the Northern Circle is reported to exceed considerably the total forest collections shown in the accounts of that Circle :—

Circle	Receipts.	Charges.	Surplus	Proportion of Surplus to gross Revenue
	R	R	R	Per cent.
Northern	9,13,099	7,10,002	2,03,097	22
Southern	14,33,794	7,25,204	7,08,590	49
Sind	6,85,783	5,17,704	1,68,079	25
Total in 1886-87	30,52,676	19,52,910	10,79,766	36
„ 1885-86	33,66,286	18,39,461	15,26,825	45
Increase or Decrease in 1886-87	—3,33,610	+1,13,449	—4,47,059	—9

CHAPTER VI.

EXPORTS OF FOREST PRODUCE.

General.

148. The following table shows the quantities of forest produce exported from India during the year 1886-87 :—

ARTICLES.	QUANTITY IN TONS OF 20 CWT.; IN THE CASE OF TEAK, 50 CUBIC FEET.		VALUATION AT PORT OF SHIPMENT IN 1886-87.	
	Average of 5 years, 1881-82 to 1885-86.	In 1886-87.	Total.	Per ton.
			R	R
Caoutchouc	451	380	8,47,188	2,229
Shell-Lac	5,015	5,757	40,16,127	698
Lac-dye	118	46	16,188	352
Cardamoms	102	132	4,07,448	3,087
Sandalwood, Ebony, and other ornamental woods	Quantity is not available.		4,75,739	...
Cutch and Gambier	11,992	9,970	29,52,506	296
Myrabolams	25,701	29,829	22,58,956	76
Teak	51,933	23,946	22,31,543	93
Total in 1886-87	...	...	1,32,05,695	...
" 1885-86		...	1,71,18,715	...
Decrease in 1886-87	...	...	39,13,020	...

APPENDICES.

APPEN

STATE

Summary of the Revenue and Expenditure of the Forest

Budget Heads.	Imperial	Bengal.	North Western Provinces and Oudh.	Punjab.	Central Provinces	Lower Burma	Upper Burma	Assam	Coorg.	Ajmere.	Baluchistan
	Bengal Presidency (British Territories)										
REVENUE	R	R	R	R	R	R	R	R	R	R	R
I.—Timber and other produce removed from the forests by Government agency.	...	1,07,485	8,23,291	7,17,921	85,024	15,43,132	50,000	387	61,822	3,468	3,172
II.—Timber and other produce removed from the forests by consumers or purchasers	...	5,14,737	7,09,934	3,73,588	8,40,178	2,50,568	1,100	1,83,059	35,024	7,010	10,271
III.—Drift and waif wood and confiscated forest produce	...	4,653	12,662	14,082	3,563	1,05,680	6,974	2,225	...	...	...
IV.—Revenue from forests not managed by Government	...	19	8,612	2,443	11,444	74,519	50,000	10,629	...	...	...
V.—Miscellaneous	...	26,740	19,057	19,285	17,201	24,768	...	15,711	2,445	796	638
Total Revenue	4,186	6,53,634	15,73,556	11,27,277	9,57,410	19,98,667	1,08,074	2,12,011	99,291	11,274	14,081
EXPENDITURE											
A.—Conservancy and Works											
I.—Timber and other produce removed from the forests by Government agency.	...	60,885	3,77,320	2,80,623	51,359	6,41,355	267	2,680	26,604	1,683	3,178
II.—Timber and other produce removed from the forests by consumers or purchasers	...	27,944	42,542	1,709	1,75,946	7,423	...	6,104	338	110	...
III.—Drift and waif wood and confiscated forest produce.	...	935	5,910	4,448	...	55,771	182	79	...	...	...
IV.—Revenue from forests not managed by Government.		...	3,375	...	...	7,396	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government.	...	...	15,205	37,144	1,079	...	...	...	...	...	377
VI.—Live-stock, stores, tools and plant	...	43,910	25,123	3,919	9,827	26,755	85	12,940	687	135	257
VII.—Communications and buildings.	...	21,930	81,768	18,592	4,782	11,644	...	11,781	3,175	503	142
VIII.—Demarcation, improvement, and extension of forests.	...	33,933	72,779	57,677	37,810	43,084	...	40,291	14,731	5,839	2,590
IX.—Miscellaneous	...	3,173	5,228	3,523	5,886	8,811	...	5,287	152	11	30
Total Conservancy and Works.	...	1,92,710	6,29,250	4,07,635	2,86,689	8,02,239	484	79,168	45,887	8,281	6,574
B.—Establishments.											
I.—Salaries	...	1,89,351	2,44,122	2,47,643	1,81,176	2,35,042	1,150	1,06,124	23,308	10,540	6,606
II.—Travelling allowances	...	30,340	31,022	43,757	15,894	30,788	545	22,697	4,022	1,190	2,333
III.—Contingencies	...	10,380	15,186	17,475	15,534	7,761	9	4,298	871	733	323
Total Establishments	...	2,30,071	2,90,330	3,08,875	2,12,604	2,73,591	1,704	1,33,119	28,201	12,463	11,262
Grand Total of Expenditure.	86,299	4,22,781	9,19,580	7,16,510	4,99,293	10,75,830	2,188	2,12,287	74,088	20,744	17,836
Surplus	...	2,30,853	6,53,976	4,10,767	4,58,117	9,22,837	1,05,886	...	25,203	...	...
Deficit	82,113	...	...	...	...	...	...	276	...	9,170	3,755

DICES.

MENT I.

Department in India for the year 1886-87.

Andamans	Forest School	Forest Surveys (Imperial).	Total Bengal Presidency (British Territories).	Madras.	Bombay.	Total British Provinces.	Berar.	Forest Surveys (Berar).	Grand Total.	Budget Heads.
R	R	R	R	R	R	R	R	R	R	REVENUE.
30,750	...	...	34,26,455	2,76,082	19,05,278	56 07,815	...	...	56,07,815	I.—Timber and other produce removed from the forests by Government agency.
875	...	...	29,26,344	9,49,193	10,24,000	48,99,537	3,22,842	...	52,22,379	II.—Timber and other produce removed from the forests by consumers or purchasers.
...	...	...	1,49,789	7,451	15,407	1,72,647	2,134	...	1,74,781	III.—Drift and waif wood and confiscated forest produce.
...	...	...	1,57,671	...	24,644	1,82,315	...	...	1,82,315	IV.—Revenue from forests not managed by Government.
245	415	241	1,27,542	14,185	63,347	2,05,074	1,285	651	2,07,010	V.—Miscellaneous.
31,870	415	241	67,91,987	12,46,911	30,32 676	1,10,71,574	3,26,261	651	1,13,98,486	Total Revenue
										EXPENDITURE.
										A.—Conservancy and Works.
5,490	...	...	14,51,450	1,73,716	8,49,950	24,75,116	...	...	24,75,116	I.—Timber and other produce removed from the forests by Government agency.
...	...	...	2,62,116	76,040	15,735	3,53,891	14,242	...	3,68,133	II.—Timber and other produce removed from the forests by consumers or purchasers.
...	...	...	67,325	840	322	68,487	...	...	68,487	III.—Drift and waif wood and confiscated forest produce.
...	...	...	10,771	356	5,630	16,757	...	...	16,757	IV.—Revenue from forests not managed by Government.
...	...	...	53,805	89,553	34,138	1,77,496	17,314	...	1,94,810	V.—Rent of leased forests and payments to shareholders in forests managed by Government.
6,786	1,628	1,979	1,34,181	23,258	3,961	1,61,400	6,722	2,702	1,70,824	VI.—Live-stock, stores, tools and plant
...	...	...	1,54,317	51,719	13,208	2,19,244	11,335	410	2,30,989	VII.—Communications and buildings.
...	...	5,576	3,14,310	1,73,707	1,80,575	6,68,592	11,009	7,161	6,86,762	VIII.—Demarcation, improvement, and extension of forests.
20	2,906	..	35,027	8,881	6,907	50,815	4,053	15	54,883	IX.—Miscellaneous.
12,296	4,534	7,555	24,83,302	5,98,070	11,10,426	41,91,798	64,675	10,288	42 66,761	Total Conservancy and Works.
										B.—Establishments.
12,111	22,505	12,752	12,94,490	4,26,334	6,84,580	24,05,344	87,580	24,666	25,17,599	I.—Salaries.
1,310	1,792	3,880	1,89 570	1,04,772	1,07,956	3,99,298	13,818	7,943	4,21,059	II.—Travelling allowances.
52	2,000	4,161	78,785	26,946	49,948	1,55,677	5,622	2,575	1,63 874	III.—Contingencies
13,473	26,297	20,793	15 02,783	5,55,052	8,42,484	29 60,319	1,07,029	35,184	31,62,532	Total Establishments.
25,769	30,831	28 348	41,32 384	11,53,122	19,52,910	72,38,416	1,71,704	45,472	74,55 592	Grand Total of Expenditure.
6,101	...	...	26,59,603	93 789	10,79,766	38,33,158	1,51,557	..	39,42,894	Surplus.
	30,416	28,107	...	...	...	...	...	44,821	...	Deficit.

STATEMENT II.

Financial Results of Forest Administration for the year 1886-87.

Province	Timber and other produce removed from the Forests by Government Agency.			Other Revenue.			Formation, protection, and improvement of Forests
	Receipts.	Charges.	Surplus or Deficit	Receipt	Charges	Surplus or Deficit.	Charges
	R	R	R	R	R	R	R
Bengal	1,09,760	85,408	+ 24,352	5,43,874	1,53,044	+ 3,90,830	1,84,329
N.-W. Provinces and Oudh	8,24,794	4,44,469	+ 3,80,325	7,46,731	1,97,155	+ 5,49,576	2,77,956
Punjab	7,31,952	4,27,136	+ 3,04,816	3,95,325	1,09,169	+ 2,86,156	1,80,205
Central Provinces	79,042	63,198	+ 15,844	8,78,368	2,80,536	+ 5,97,832	1,55,559
Burma (Lower)	16,44,387	8,18,260	+ 8,26,127	3,54 280	1,49,404	+ 2,04,876	1,08,166
Assam	2,612	2,765	—153	2,09,399	81,186	+ 1,28,213	1,28,336
Coorg	61,822	37,787	+ 24,035	37,469	5,587	31,882	30,714
Ajmere	3,468	1,683	+ 1,785	7,807	5,095	+ 2,712	13,966
Baluchistan	3,172	3,552	—380	10,909	5,977	+ 4,932	8 307
Andamans	70,078	57,332	+ 12,746	1,119	..	+ 1,119	966
Total	35,31,087	19,41,590	+ 15,89,497	31,85,281	9,87,153	+ 21,98,128	10,88,501
Berar				3,26,447	1,20,727	+ 2,05,720	50,783
Total Bengal Presidency	35,31,087	19,41,590	+ 15,89,497	35,11,728	11,07,880	+ 24,03,848	11,39,287
Madras	2,78,853	3,38,318	—59,465	9,67,930	3,84,919	+ 5,83,011	4,32,450
Bombay	19,09,135	9,75,906	+ 9,33,229	11,23,541	2,83,267	+ 8,40,274	6,41,009
Grand Total	57,19,075	32,55,814	+ 24,03,261	56,03,199	17,76,066	+ 38,27,133	22,12,746

* The figures in this statement are taken from Form No 2 appended to the Annual Forest Reports (Form No. 67, Madras Report)

STATEMENT III.*

Revenue, Expenditure, and Surplus of the Forest Department throughout India during the 22 years from 1864-65 to 1885-87.

REVENUE.

Provinces.	1864-65	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73	1873-74.	1874-75.	1875-76.	1876-77.	1877-78	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Imperial†	421	30,950	752	543	1,159	1,436	3,107	2,334	2,771	1,225	1,144	1,465	2,490	1,36,772	16,716	17,214	18,887	27,407	30,732	32,907	26,574	14,708	4,186
Bengal	19,760	38,650	45,599	56,039	70,715	2,44,657	1,03,249	1,44,719	1,49,852	1,79,366	1,85,932	1,98,274	2,22,401	4,26,228	4,16,627	4,49,524	5,61,340	6,33,734	6,93,959	6,94,334	5,71,152	5,97,432	6,53,638
North-Western Provinces and Oudh	7,23,440	7,31,382	7,79,201	5,84,503	7,85,210	8,32,945	4,23,257	11,70,900	19,39,115	19,32,677	13,63,358	12,64,356	11,50,671	12,03,108	11,26,755	10,39,966	9,42,228	10,66,094	10,13,403	16,11,383	15,72,319	14,61,495	15,73,556
Punjab	5,27,981	3,50,680	3,96,050	2,80,510	3,44,882	3,94,129	9,47,236	7,10,216	6,52,995	7,32,539	8,34,871	9,09,831	5,98,754	6,83,711	5,80,619	6,49,819	6,71,678	6,88,308	7,65,709	9,10,177	7,49,252	8,50,419	11,27,277
Central Provinces	68,760	1,34,042	2,37,472	3,49,490	3,50,536	4,16,020	6,58,120	5,57,128	4,81,673	5,68,367	6,60,938	7,26,176	6,61,326	6,83,910	8,52,862	10,06,724	8,50,139	11,72,881	9,77,647	9,94,769	10,27,202	10,36,894	9,57,410
Burma (Lower)	9,34,070	8,98,485	4,24,774	6,46,812	8,17,599	9,84,774	8,18,124	7,72,400	8,27,589	10,68,621	10,74,802	17,79,020	15,51,408	16,03,082	11,37,582	11,80,190	14,16,613	22,31,804	25,03,896	25,09,275	16,70,982	20,23,859	19,98,667
(Upper)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,08,074
Assam	...	...	...	...	...	...	...	...	...	...	65,949	61,870	81,568	1,34,226	1,61,779	1,64,335	1,68,997	1,65,054	2,48,605	2,11,445	1,86,416	1,96,656	2,12,011
Coorg	57,489	1,01,157	32,568	79,082	98,496	1,08,135	72,144	92,466	84,425	1,10,284	58,015	1,07,460	75,927	1,01,015	52,020	1,01,786	87,857	1,00,364	1,58,022	87,822	1,13,233	89,386	99,291
Ajmere	...	...	...	...	...	...	...	...	24	304	202	410	905	3,902	1,241	1,861	1,124	4,065	7,126	8,198	10,456	9,697	11,274
Forest Surveys (Imperial)	...	...	...	...	...	...	...	...	...	...	...	21	...	...	63	38	272	...	348	36	234	202	241
Forest School	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	73	273	415
Andamans	2,898	2,516	3,495	6,070	5,071	3,636	7,373	5,880	6,862	4,184	5,516	5,363	4,679	1,301	5,561	2,437	27,734	48,407	70,858	24,762	22,213	23,944	31,870
Total	23,33,828	22,87,878	19,19,842	20,03,049	24,73,868	29,85,132	30,33,610	34,56,043	41,45,286	45,97,567	42,50,730	50,54,246	43,50,129	49,76,455	42,71,208	46,13,894	48,48,869	61,39,121	64,51,305	70,85,108	59,44,204	63,04,965	67,77,906
Madras	4,49,770	4,76,674	4,48,110	5,81,342	5,29,185	6,97,699	5,33,412	5,76,261	5,95,188	6,13,633	5,14,401	6,77,873	5,92,573	5,50,310	6,06,788	6,26,168	7,36,880	8,06,988	9,06,442	9,53,704	11,66,916	11,98,650	12,46,911
Bombay	10,81,907	10,07,611	8,21,268	8,84,244	12,13,483	12,35,257	11,68,401	11,50,215	11,36,105	11,88,089	12,24,951	12,48,672	12,26,658	12,61,528	14,81,394	15,24,712	15,22,807	18,28,117	20,90,353	25,03,100	27,74,842	33,66,286	30,32,676
Total (British India)	38,85,505	37,72,163	31,89,220	34,68,635	42,16,336	49,18,088	47,35,423	51,82,519	58,86,879	63,99,309	59,89,182	69,80,791	61,69,360	67,88,293	60,59,390	67,64,774	71,06,556	87,74,116	94,48,100	1,05,41,912	98,85,962	1,08,69,901	1,10,57,193
Berar	2,368	15,106	43,572	53,440	84,557	1,80,397	1,77,329	1,55,543	2,56,563	2,63,256	2,60,574	2,32,782	2,53,072	2,79,236	2,88,704	3,07,500	2,68,556	2,33,511	2,92,944	3,06,218	2,97,185	3,19,851	3,26,261
Forest Surveys (Berar)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	934	631	651
Baluchistan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,376	12,616	5,039	4,752	6,689	11,962	14,081
Grand Total	38,67,873	37,87,269	32,32,794	35,22,075	43,00,893	50,98,485	49,12,752	53,38,062	61,43,442	66,62,565	62,49,856	72,13,573	64,22,432	70,67,529	63,48,594	70,72,274	73,87,488	90,26,273	97,45,153	1,08,54,882	1,01,90,170	1,12,05,345	1,13,98,486

* The figures in this statement have been revised by the Comptroller and Auditor General.
† Includes certain Home Receipts and undistributable and petty local items.

STATEMENT III—*continued.*

EXPENDITURE.

Provinces	1864 65.	1865-66	1866-67.	1867-68	1868-69	1869 70.	1870 71.	1871-72.	1872-73	1873-74	1874-75	1875-76	1876 77	1877 78	1878 79.	1879 80.	1880 81.	1881 82	1882-83	1883-84.	1884-85	1885-86	1886-87.
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Imperial	44,207	16,981	32 078	38,924	33.007	54,106	51,423	66,530	67,150	79,216	81,210	48,239	44,004	98 099	63,956	73,810	65,291	77,635	87,268	98,266	96,306	88,245	86,299
Bengal	3,971	45,292	1,05,215	1,67,495	1,15,933	1,17,899	86,479	1,10,989	1,00,777	1,39,274	1,01,361	1,22,676	2,14,497	2,62,913	3,38,675	2,75,748	3,35,381	3,94,612	3,82,183	3,87,813	4,11,915	3,70,399	4,22,781
North-Western Provinces and Oudh	5,03,580	3,31,261	4,10,205	3,89,806	5,01,021	5,29,422	8,10,073	11,10,071	11,74,666	11,90,794	10,61,302	7,36,979	8,61,362	7,98,926	8,09,977	7,16,594	6,79,574	9,16,212	8,39,025	10,41,885	10,20 101	9,74,519	9,19,5[illegible]
Punjab	5,78,616	2,71,369	2,53 373	2,88,029	3,17 634	7,41,432	11,95,655	7,07,619	8,99,369	6,11,556	6,58,983	5,56,911	5,25,659	5,20,631	5,23,554	4,80,676	4,95 398	5,16,269	5,60,750	6,53,146	5,58,070	6,75,483	7 16,51[illegible]
Central Provinces	1,55,270	1,08,597	1 49,408	2,18,434	3,19,126	4,74,930	3,17,928	2,31,633	2,50,578	2,85,939	2,94,449	3,73,327	2,90,295	3,22,034	3,93,758	5,22,574	4,95,512	4,97,013	4,12,247	4,36,058	4,95,821	4,45,432	4,99,293
Burma (Lower)	2,62,930	3,11,941	2,88,993	3,30,526	4,24,333	4,22,106	4,00,851	3,79,217	3,36,759	4,75,304	6,63,547	8,15,659	10,05,554	8,58,231	7,18,402	7,53,490	7,12,568	11,50,224	12,28,955	12,17,824	12,12,233	11,50,952	10,75,830
" (Upper)	..	..	..	...	..	..	..	..	...	..	...	..	..	..	..	..	..	...	..	..	..	..	2,488
Assam	..	...	...	..	...	...	..	..	..	..	60,367	63,397	90,520	1,01,153	1,26,028	1 32,829	1 42,725	1,65,261	1,71,823	1,99,562	1,97,699	2,11,494	2,12,287
Coorg	3 407	12,996	8 650	13,722	17 848	33,064	24,747	70,178	29,478	45,952	37,999	40,168	33,692	36,268	34,829	55,165	56,487	59,796	64,770	75,023	76,951	65,690	74,088
Ajmere	...	..	..	.	..	...		...	13,054	17,932	15,281	27,346	22,460	14,926	13,445	13,750	12,423	13,964	11,284	14,574	16,816	16 469	20,744
Forest Surveys (Imperial)	...	...	..	...	...	...	...	...	.	59,556	78,090	58,930	58,929	60,165	60,323	46,878	40,335	42,489	41,595	30,940	19,823	19,189	28,348
Forest School	...	...	...	...	...	...	...	.	.	.	...			..	...	...		..	.		22,568	24,239	30,831
Andamans	...	...	...	...	...	150	.	1,651	1,896		....	.	1,307	1,090	..	7,177	2,160	2,306	1,840	12,161	22,760	37,635	25,769
Total	15,51,981	10,98,437	12 55,922	13,46,936	17,28 902	23,73,109	28,87,156	28,79,888	28,64,728	29,05,523	30,52,589	28 63,632	31,48,279	30,04,242	30,82,949	30,72,691	30,37,324	38,35,871	38,01,740	41,67,252	41,50,563	40,79,137	41,34,[illegible]
Madras	2,61,780	3,51,392	3,42,827	4,02,674	4,01,617	4,21,316	4,47,267	3,91,921	5,48,746	4,74,920	5,95,941	5,92 039	6,35,360	5,65,621	4,96,914	5,48,527	5,19,270	6,03,419	6,45,357	7 86,733	8,96,505	9,37,972	11 53,422
Bombay	3,72,187	7,77,139	6,51,641	5,55,039	6,31,226	5,56,015	6,39,759	5,97,831	7,25,031	7,21,594	8,36,675	7,94,141	8,38,979	8,77,716	10,04,923	10,76,989	11,67,347	11,69,181	12,78,770	15,64,172	17,78,723	18,39,461	19,52,[illegible]
Total (British India)	21,88,948	22,26 958	22,50,390	24,04,649	27,61,745	33,50,440	39,74,182	36,67,640	41,38,505	41,02,037	44 85,205	42,49,812	46,22,818	44,47,782	45,83,786	46,98,207	47,24,441	56,08,471	57,25 862	65,18 157	68,25 791	68,56,570	72,20,[illegible]
Berar	478	8,991	13,718	18,669	34,105	81,569	81,972	1,00,829	83,631	86,350	91,389	91,449	94,652	1,09,968	1,07,350	1 10,606	1,28,968	1,52,985	1,55,054	1,56,779	1,52,649	1,59,242	1,71,704
Forest Surveys (Berar)	...	...	...	...	...	...	...	.	..	...	..	...			.	..			.	15,043	34,804	42 940	45,472
Baluchistan	—	—	...	....	...	...	...	..	..	.	...	...	...	.	...	...	16,416	17,682	11,962	16,911	13,266	15,799	17,836
Grand Total	21,89,426	22,35,959	22,64,108	24,23,318	27,95,850	34,32 009	40,56,154	37,68,469	42,22,136	41,88,387	45,76,594	43,41,311	47,17,470	45,57,750	46,91,136	48,08,713	48,69,825	57,79,138	58,92,878	67,06,890	70,26,510	70 77,551	74,55,592

* Includes pay of Inspector General of Forests, certain Home charges, and undistributable and petty local items.

STATEMENT III,—*concluded.*

SURPLUS.

Provinces	1864-65	1865-66.	1866-67.	1867-68	1868-69	1869-70.	1870-71	1871 72.	1872-73.	1873-74.	1874-75	1875-76.	1876-77.	1877-78	1878-79.	1879-80	1880-81.	1881-82	1882-83.	1883 84	1884-85.	1885-86	1886-87.
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Imperial*	−43,786	13,978	−21,328	−38,381	−31,848	−52,670	−48,316	−64,196	−61,379	−77,991	−83,066	−46,774	−41,514	38,673	−47,240	−56,596	−46,404	−50,228	−56,536	−65,359	−69,732	−73,537	−82,112
Bengal	15,789	−6,634	−59,625	−1,11,456	−45,218	1,26,758	16,770	33,730	49,075	40,092	84,571	55,598	7,904	1,63,315	77,352	1,73,776	2,25,959	2,39,122	3 11,776	3,06,521	1,59,237	2,27,033	2,30,853
N.-W. Provinces and Oudh	2,19,260	4,00,121	3,68,999	1,94,697	2,84,189	3,03,523	−3,85,816	60,929	7,64,449	7 41,883	3,02,056	5,27,377	2,89,309	4,74,182	3,16,778	3,23 372	2,62,654	1,49,882	1,74,378	5,69,498	5,52,218	4,86,976	6,53 [illegible]
Punjab	−51,535	79,311	1,32,677	−7,569	27,248	−3,47,303	−2,48,419	2,597	−2,37,374	1,30,983	1,75,891	3,52,920	73,895	1,63,080	−22,935	1,69 143	1 76,310	1,72,039	2,05,959	2 57,031	1,91,282	1,74,936	4,10,767
Central Provinces	−86,510	25,445	88,064	1,31,056	31,416	−58,910	3,40,192	3,25,495	2,31,095	2 82,428	3,66,489	3 52,849	3,71,031	3,61,876	4,59,104	4,84,150	3,54,627	6,75,871	5,65,400	5,58,711	5,31,381	5,91,462	4,58,117
Burma (Lower)	6,71,140	5,86,544	1,37,781	3,16,286	3,93,266	5,62,868	4,17,273	3,93,183	4,90,810	5,93,317	4,11,255	9,63,361	5,45,854	7,44,851	4,19,160	4,26,700	8,04,045	10,81,580	12,74,941	12,91,351	4,58,749	8,72,907	9,22,837
Burma (Upper)	...	...						...			...					...	...						1,05,886
Assam		...						...			5,582	−1,527	−8,952	33,173	35,751	31,506	26,272	693	76,782	11,883	−17,285	−14,838	−276
Coorg	54,081	88,161	23,856	95,360	80,648	75,071	47,397	22,288	54,946	64,332	20,016	67,292	42,235	64,747	17,191	46,621	31,370	40,568	73,252	12,799	36,282	23,696	25,209
Ajmere	...	...		...					−13,030	−17,628	−15,079	−26,936	−21,555	−11,928	−12,204	−11,889	−11,299	−9,889	−4,158	−6,376	−5,860	−6,772	−9,470
Forest Surveys (Imperial)	...	...		...			...		...	−59,556	−78,090	−58,909	−58,929	−60,165	−60,262	−46,840	−40,063	−42,489	−41,247	−30,904	−19,589	−18,978	−28,107
Forest School								...													−22,495	−23,966	−30 416
Andamans	2,808	2,515	3,495	6,070	5,671	2,886	7,373	4,229	4,966	4,184	5,516	5 363	3,372	205	5,564	−4 740	25,574	46,101	69,018	12,601	−547	−13,091	6 101
Total	7,81,847	11,89,441	6,63,920	5,56,113	7,44,766	6,12,023	1,46,154	7,78,135	12,80,558	16,92,044	11,98,141	21,90 614	12,01,850	19,72,013	11,88,259	15,35 203	18 09,045	23,03,250	26,49,565	29,17,856	17,93,641	22,25,828	26,63,336
Madras	1,84,990	1,25,282	1,05,283	1,78,868	1,27,568	2,76,383	86,145	1,84,340	46,442	1,38,733	−81,540	85,834	−42,987	−15,314	1,10,874	77,641	2,17,610	2,03,489	2,61,090	1,66,971	2,70,811	2,60,678	93,789
Bombay	7,09,720	2,30,472	1,69,627	3,29,205	5,82,257	6,79,242	5,28,642	5,52,304	4,21,374	4,66,495	3,87,376	4,54,531	3 87,879	3,83,812	1,76,971	4 47,723	3,55,460	6,58,936	8,11,583	9,38,928	9,96,119	15,26,825	10,79,766
Total (British India)	16,76,557	15,45,195	9,38,830	10,63,986	14,54,591	15,67,648	7,61,241	15,14,879	17,48,374	22,97,272	15,03977	27,30,979	15,46,542	23,40,511	14,76,104	20,60,567	23,82,115	31,65,675	37,22,288	40,23,755	30,69,171	40 13,331	38,36,913
Berar	1,890	6,115	29,856	34,771	50,452	98,828	95,357	54,714	1,72,932	1,76,906	1,69,285	1,41 283	1,58,420	1,69,268	1,81,354	1,96,994	1,37,588	80,526	1,36,960	1,51,439	1,44,536	1 60,608	1,54,55
Forest Surveys (Berar)		...		...			...		...	...			...		...	...	...			−15,043	−33,870	−42,309	−44,821
Baluchistan			...						...	...	...		...	...			−2,040	994	−6,923	−12,159	−7,177	−832	−3,755
Grand Total	6,78,447	15,51,310	9,68,686	10,98,757	15,05,043	16,66,476	8,56,598	15,69,593	19,21,306	24 74,178	18,73,262	28,72,262	17,04,962	25,09,779	16,57,458	22,57,561	25,17,663	32,47,135	38,52,275	41,47,992	31,63,660	41,30,794	39,42,994

* Including pay of Inspector-General of Forests, certain Home charges, and undistributable and petty local items.

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